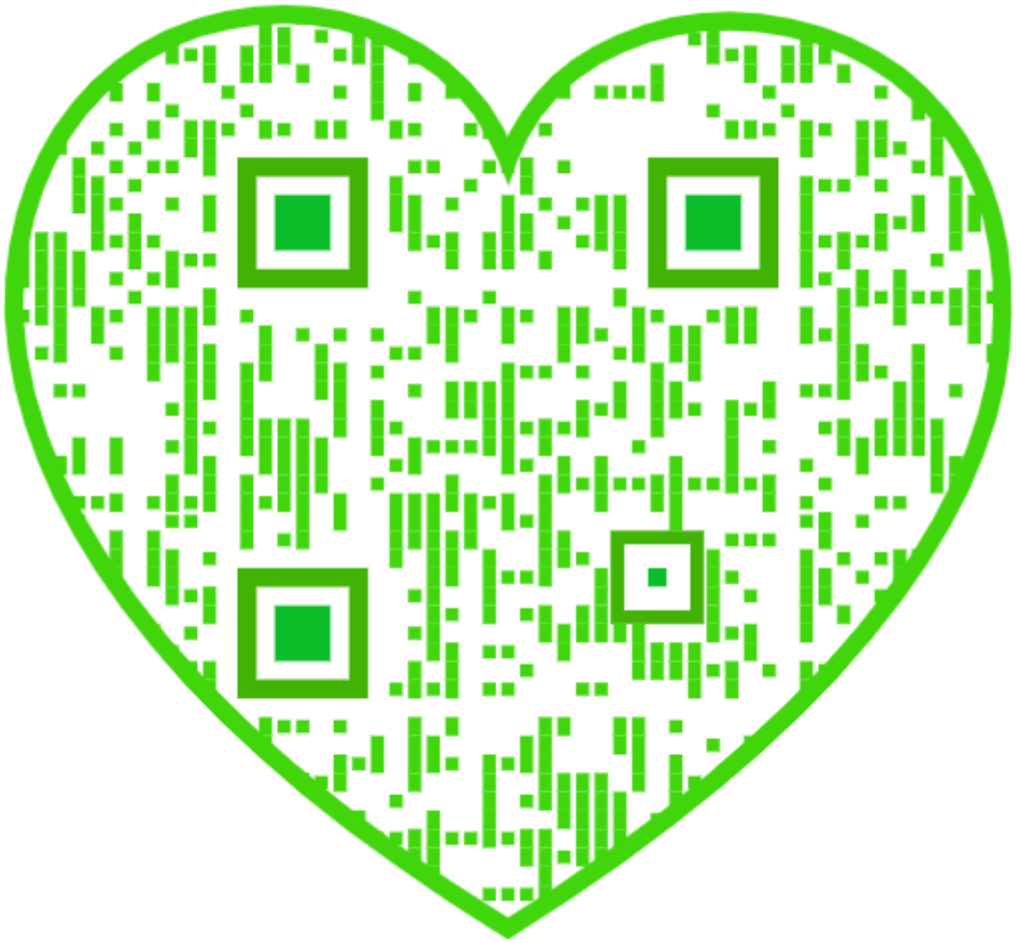

TROPHONIUS SLAYING AGAMEDES AT THE TREASURY OF HYRIEUS.

SOME OLD MASTERS OF GREEK ARCHITECTURE

By HARRY DOUGLAS

CURATOR OF * * *
KELLOGG TERRACE

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WHOSE APPRECIATION OF THE HARMONIES OF ART, AND WHOSE HIGH IDEALS OF ARCHITECTURE HAVE FOUND EXPRESSION IN MANY ENDURING FORMS, THIS BOOK IS RESPECTFULLY INSCRIBED.

PREFACE

The temptation to wander, with all the recklessness of an amateur, into the traditions of the best architecture, which necessarily could be found only in the history of early Hellenic art, awakened in the author a desire to ascertain who were the individual artists primarily responsible for those architectural standards, which have been accepted without rival since their creation. The search led to some surprise when it was found how little was known or recorded of them, and how great appeared to be the indifference in which they were held by nearly all the writers upon ancient art, as well as by their contemporary historians and biographers. The author therefore has gone into the field of history, tradition and fable, with a basket on his arm, as it were, to cull some of the rare and obscure flowers of this artistic family, dropping into the basket also such facts directly or indirectly associated with the

architects of ancient Greece, or their art, as interested him personally. The basket is here set down, containing, if nothing more, at least a brief allusion to no less than eighty-two architects of antiquity. The fact is perfectly appreciated that many fine specimens may have been overlooked; that scant justice has been done those gathered, and that the basket is far too small to contain all that so rich a field could offer.

This book, therefore, aims at nothing more than a superficial glance at the subject, and the author will be content if he has accomplished anything toward bringing those great geniuses of a noble art into a little modern light, who have been left very much to themselves in one of the gloomiest chambers of a deep obscurity.

CONTENTS

PAGE

1. Popular Appreciation of Architects, . 1
2. Mythical and Archaic Architects and Builders, ... 24
3. Originators of the "Three Orders," . 49
4. Early Grecian Architects, ... 63
5. Architectural Epoch of Pericles, . . 90
6. Architects of the Age of Pericles, . . 103
7. Later Greek Architects, ... 136
8. Alexandrian Era, and Roman Spoliation, 148
9. Alexandrian Architects, ... 164

Index of Architects and Architectural Sculptors, ... 185

CHAPTER I.

The Popular Appreciation of Architects.

OF all the fine arts none more completely answers for its *raison d'être* than architecture. In this art alone do we find the harmonious mingling of æsthetical fancy with utilitarian purpose. It is this feature of usefulness that completes its well-rounded perfection, rather than detracts from it, and dignifies its mission of existence. Architecture, in its capacity to draw to its enrichment the other arts, may be compared to the polished orator, whose purpose is to sway the judgment of his audience by forensic effort, embellishing his language with the flowers of rhetoric, adapting his gestures to graceful emphasis, and controlling his voice to suit the light and shade of his thought. So sculpture has been stimulated by architecture and has contributed to its ornamentation; painting has been invoked to the highest accomplishments, and music has awakened within its walls voice and harmony. "The progress of other arts depends on that of architecture,"

Sir William Chambers very truly says. "When building is encouraged, painting, sculpture, gardening and all other decorative arts flourish of course, and these have an influence on manufactures, even to the minutest mechanic productions; for design is of universal advantage, and stamps a value on the most trifling performance."

It is perhaps not a little odd that despite its preeminent importance, and the high rank which it has ever assumed, from that early time when the first rays of dawning civilization began to warm the latent germs of culture and refinement in human nature, to the present day, it is the only art that has not, with very rare and isolated exceptions, stamped renown upon those who have practised it as a profession, and lifted the artist into the lasting remembrance and gratitude of the admirers of his works. How greatly the painter, the sculptor, the musician, are identified with their arts, and the products of their brush, chisel or pen! how great has been their praise, how lasting and unstinted the esteem in which they have been held! but how reserved has been the applause that has encouraged the architect who has given to the world the grand and noble results of his skill and genius, and how soon he himself has been forgotten! It happens only too often that it is the name of

the distinguished painter that stamps the value of his canvas rather than the merits of the picture itself. The title of a beautiful piece of sculptured marble is not asked with greater eagerness than that of the artist who created it. Bach and Beethoven and Mozart are played and sung to the popular audiences rather than their fugues, their sonatas and their symphonies.

But what is known of the artists who have reared the greatest monuments of enduring architecture? Their personality, and even their names, appear to have faded from popular recollection. This seems to have been the fact from the earliest days of the art in Greece and Rome to the present time. The exceptions are so rare, throughout all the intervening ages, and the waving prominence of the art, that they might almost be numbered upon the fingers of a single hand.

The reader, if he is not a professional architect, or an amateur who has read deeply in his favorite subject, can arrive at the truth of this seemingly exaggerated statement, if he will lay aside this book for a moment and try to recall the names of the designers of some of the more conspicuous monuments of architecture he has visited at home or abroad.

"I will erect such a building, but I will hang it up in the air," exclaimed Michael Angelo when he saw the

dome of the Pantheon at Rome. The reader may remember this boast of the great Renaissance genius, the fulfilment of it in the colossal dome of St. Peter's, and be satisfied that his memory has captured one architect of celebrity. If the beautiful Florentine campanile of Giotto looms up in his recollection he will think at once also of that early artist, but perhaps not more so in connection with that ornate tower than in association with the Pre-Raphaelites. Of course, he will not overlook Inigo Jones, whose very name is stamped upon the memory by reason of its peculiarity, or Sir Christopher Wren, the creator of St. Paul's, and the British idol. If he is an admirer of the picturesque architecture of Venetian churches and palaces, the Italian Palladio may not escape him; and if of French Renaissance, the Louvre façade will possibly suggest Perrault, and the Parisian roofs Mansard. If he is a native of our "Modern Athens," of course, the peril in which the classic front of the State House rested for a time, at the hands of a *fin de siècle* legislature, will not permit him to forget Bulfinch, and Trinity Church will bring to memory the only Richardson. But aside from a few names such as have been mentioned, with possibly a sprinkling of others fixed in the memory, by incident or association, the average reader, however well ac-

quainted he may be with the numerous luminaries of the other arts, will be unable to say who was responsible for the beauty and nobility of many buildings that have individualized the cities and towns of their location to the art-loving world. Who, for example, can tell of the authors of the cathedrals at Milan and Siena, Cologne and Strassburg, Rheims and Amiens, Wells and Litchfield; the Giralda at Seville; the Church of the Invalides at Paris; the Strozzi Palace at Florence; the Henry VII. chapel at Westminster Abbey; the much and justly admired south façade of the old City Hall in New York; Grace Church in that city; the Capitol building in Washington, or that model of colonial architecture in America, the Executive Mansion?

It is not, however, the purpose to here speculate too extensively upon the apparent lack of justice on the part of the general public which has been done the architects of all climes and times, but to gather together a few facts concerning the Old Masters of early Grecian architecture that are not popularly known, and recall some of the leading lights of that art so inimitably practised by the Hellenic people during their progress from archaic darkness to the zenith of their æsthetic culture.

It is but repeating a well-worn truth to say that the influence of the early Grecian architects upon the fol-

lowers of their art in all countries of recognized civilized enlightenment, throughout the ages that have succeeded them, has been an almost dominant one. Robert Adam, the architectural authority in the time of George III., says, in the introduction to his work on the ruins of the palace of the Emperor Diocletian: "The buildings of the ancients are in architecture what the works of nature are with respect to the other arts: they serve as models which we should imitate and as standards by which we ought to judge; for this reason they who aim at eminence, either in the knowledge or practice of architecture, find it necessary to view with their own eyes the works of the ancients which remain, that they may catch from them those ideas of grandeur and beauty which nothing, perhaps, but such an observation can suggest."

It is equally true that no country that has experienced an evolution in intelligence and culture, during the twenty-five hundred years that have fled since the time of Pericles, has succeeded in introducing any new school of architecture, that has not been compelled to draw upon ancient Greece for many of the most important and essential features of the art it could only modify, but never wholly re-create.

The Gothic, or pointed-arch style, that sprung into

such beautiful being in the thirteenth century, and reigned a queen within the Christian countries of Europe for several centuries thereafter, came more nearly answering for an original scheme of architecture than perhaps any other of equal importance, and yet had it been deprived of the Grecian props that helped to sustain it, it must have fallen to the ground.

In the Gothic the effort was made to incline the inherited principles of architecture more closely toward the spiritual progress of the people, but when at last it had run its course, and was dethroned, owing to a realization of the fact that even a closer allegiance to classic models could be made to answer still better spiritual requirements, how completely did the artistic temperament of the people revert to Greece and Rome, as the light of their returning inspiration and truth appeared with the dawn of the sixteenth century. Renaissance architecture and Renaissance art swept Europe like a wave, and the people turned with reactionary enthusiasm to the ancient standards of art, as they did to the study of classic authors, and to the writing of even Greek and Latin verses.

The debt of gratitude, therefore, which posterity has owed the originators in ancient Greece of the three noble orders of architecture—namely, the Doric, Ionic

and Corinthian—can scarcely be overestimated, for it is to those three orders or styles that all subsequent architects have turned for the fundamental truths of their art. They may not have followed each or all with conventional strictness; but they have not succeeded in escaping from borrowing many of the features there everlastingly fixed by the unerring geniuses of classic times.

"Famous Greece!
That source of art, and cultivated thought,
Which they to Rome, and Romans hither brought."

The uses to which the Greek and Roman architectural forms, principles and ornaments have been put since the birth of the Renaissance have broadened largely, and would seem to preclude any possibility of their ever again falling into even partial desuetude. It is not only in the more pretentious buildings, monuments and ornamental structures that abound so plentifully in the populous and wealthy cities that classic models and features are so liberally employed, but even the unpretentious and simple rural homes cannot escape their use. What is more common than the Doric mutule or Corinthian modillion, so frequently seen in the cornices of modern houses, or the Ionic dentils that show their teeth below a piazza roof or over the door casing of a

colonial dwelling? The various combinations of the fret, the egg and dart, the bead and fillet, the honeysuckle, the acanthus and many other Grecian *motifs* of ornamentation, are met with constantly, not only in buildings of a public or private nature, but in furniture and fresco, in interior decoration, and in enhancing the attractiveness of almost any article of use or ornament. Even the simple ogee moulding, which is employed, if nowhere else, about the door panels of the humblest abode, is classic in its origin, and had its archetype in the entablatures of those stately and beautiful temples dedicated to the pagan gods of ancient Greece.

It must not be inferred, however, that all the individual features employed in the Greek orders found their birth in the brains of Hellenic architects. Sir Jeremy Bentham says:

"From Egypt arts their progress made to Greece,
Wrapt in the fable of the Golden Fleece."

This statement, however, though poetical, is much too sweeping to be literally correct as to architecture. The Greeks borrowed a little—a very little—not only from the Egyptians, but from the Assyrians, the Chaldeans, the Persians, and other western Asiatic races as well; but so altered what they had borrowed, so refined it and entwined it with original conceptions of

their own, that the captive features could have returned again to their native lands without fear of detection. Indeed as to the origin of some of the architectural features which the Greeks are supposed to have taken from the countries of a more unrefined people to the south and east of them, and especially as to the volute, so conspicuous in the Ionic capital, which is supposed to have been a Persian conception, there is much dispute.

Professor T. Roger Smith, of London, very truly observes: "We cannot put a finger upon any feature of Egyptian, Assyrian or Persian architecture the influence of which has survived to the present day, except such as were adopted by the Greeks. On the other hand, there is no feature, no ornament, nor even any principle of design which the Greek architects employed that can be said to have now become obsolete."

In discussing the three primary orders of which mention has been made, and to which he adds the Tuscan and Composite, both of Italian or Roman origin, and closely dependent upon the original three, Sir William Chambers remarks: "The ingenuity of man has hitherto not been able to produce a sixth order, though large premiums have been offered, and numerous attempts been made by men of first-rate talents, to accomplish it. Such is the fettered human imagination, such the scanty store

of its ideas, that Doric, Ionic and Corinthian have ever floated uppermost, and all that has been produced amounts to nothing more than different arrangements and combinations of their parts, with some trifling deviations scarcely deserving notice; the whole tending generally more to diminish than to increase the beauty of the ancient orders. . . . The suppression of parts of the ancient orders, with a view to produce novelty, has of late years been practised among us with full as little success; and although it is not wished to restrain sallies of imagination, nor to discourage genius from attempting to invent, yet it is apprehended that attempts to alter the primary forms invented by the ancients, and established by the concurring approbation of many ages, must ever be attended with dangerous consequences, must always be difficult, and seldom, if ever, successful." Thus is seen the marvellous discretion and judgment exercised by the Grecian architects in selecting from contemporary art that alone which was best to perpetuate, and thus is well expressed in the statement of indisputable fact, a tribute to their originality and creative genius.

And who were these Old Masters of classic architecture—older in point of service to their art by thousands of years than Giotto and Raphael and Michael Angelo

and Inigo Jones and Sir Christopher Wren, and many others who might be mentioned, and who in campanile and cathedral, in public building and private palace, in monument and mausoleum, have proved themselves justly entitled to the laurels with which they have been crowned, but who nevertheless are but disciples of Hellenic and Roman masters? Where do we find the biographies of the original Old Masters of architecture recorded? Where can we turn to read of their lives, of their deeds and achievements, of their aspirations and ambitions, of their shortcomings and their foibles? Where are written down those anecdotes and incidents of personal interest, so entertaining in association with their works or their art? What, in fact, were their names? There is comparatively little recorded of the lives of the Greek and Roman architects with which to answer these questions; strange as it may appear, even their names are unfamiliar, and in many important instances are forgotten altogether. Among that large galaxy of brilliant men which Greece in her prime produced, who figured prominently in almost every walk of life, who were great in war and in peace, in philosophy and poetry, in satire and history, in oratory and valor, and as great, if not greater than in all, in statuary and sculpture—a galaxy clinging to the memory in all

ages of human progress, because never excelled, the name of a Grecian architect is a strange sound, and does not ring in tune, if it is ever heard at all, with the names enrolled upon the list of Greek immortals.

The sculptors and statuaries of ancient Greece are especially well remembered in the popular mind, and Myron and Phidias and Praxiteles and Polycletus call for no introduction to the ordinarily informed lover of art; not so the designer of the Parthenon or the Temple of Theseus, or the Erechtheum, or the Choragic monument of Lysicrates. It is strange that the artist who modelled or chiselled a bull or a cow or a Faun or a nude Venus, or any pagan god or goddess, however much we may praise the excellence of his skill, should be remembered by posterity, while the artist, his contemporary, who designed the most beautiful and graceful buildings of all time, which in their glory were the pride of their people, and which in their decay and ruin are still the loadstones that attract pilgrims from the most distant lands, is forgotten, and, it would appear, denied almost the humblest mention. Can it not be said of the Grecian architects, as well as the Grecian sculptors, that under the magic of their touch "Stones leap'd to form, and rocks began to live"? Were not the temples they reared in all the pride of surpassing

beauty, which tempted the sculptor's caress on frieze and pediment, and which gave shelter to those works of the statuary's art which Shakespeare recalls so vividly when he draws the simile:

> "They spake not a word.
> But, like dumb statues, or unbreathing stones,
> Stared at each other, and look'd deadly pale,"

as much entitled to give immortality to their creators as the works, however competitive, of other branches of art to their authors? And still so incidentally and indifferently have the historians and biographers of their time alluded to the Grecian architects, that little or nothing is to be found to quench that desire to know of them personally, which an interest in their grand achievements may well awaken.

Did we not know it to be otherwise, we might think that they, too, were like the poor architect of whom Goethe speaks: "He is employed in lavishing all the luxury of his fancy upon halls from which he is to be ever excluded, and display his ingenuity in bestowing the utmost convenience upon apartments he must not enjoy." But it does not appear that any social discrimination was exercised against the Greek architects to cast a shadow upon their present or future fame.

It is popularly believed that the great buildings of the

ancient world were very long in the process of construction—that they, in fact, took many decades and sometimes even hundreds of years to complete. If this were true it might in a measure explain the obscurity in which their architects have been left, inasmuch as the original designer of the building might have been forgotten ere the last of his successors had finished the work he had undertaken. But this is not altogether the fact. Even the pyramid of Cheops—that colossal marvel of the creative genius of man—we are informed by some authorities took but thirty years to construct, ten of which were given to the building of a road leading to the site of the pyramid, for the greater facility in handling the huge blocks of stone to be used. Neither were the temples and public edifices of Greece and Rome, as a rule, long in building, being generally undertaken and finished during the influential period of a public man's career, or the reign of a single emperor. There were, of course, exceptions to this rule, as, for example, the temple of Apollo at Delphi, that erected to Diana at Ephesus, and that dedicated to Jupiter at Athens; but in nearly all such instances it will be found that the temples were destroyed and rebuilt during the long interval which is supposed to have passed from the time when their foundations were first laid, to that which found them again

in all respects completed structures; or, if not destroyed and the work undertaken anew, the delay was caused by some political influence which contributed to check the continuous prosecution of the work, implying no procrastination on the part of the original builders. But even in the most of such cases the names of the various architects who were from time to time associated with the work are at least known, if their biographies are not more fully recorded.

It may be stated broadly that both the Greeks and the Romans were rapid builders when the size of their edifices is taken into account. Especially is this true of the time of Pericles, if we are to believe the testimony of Plutarch: "Every architect strived to surpass the magnificence of design with the elegance of execution, yet still the most wonderful circumstance was the expedition with which they [the buildings] were completed. Many edifices, each of which seemed to require the labor of successive ages, were finished during the administration of one prosperous man." And the great biographer also adds: " . . . Hence we have the more reason to wonder that the structures raised by Pericles should be built in so short a time, and yet built for ages, for each of them as soon as finished had the venerable air of antiquity; so now they are old they have the freshness of

a modern building. A bloom is diffused over them which preserves their aspect untarnished by time, as if they were animated by a spirit of perpetual youth and unfading elegance."

Another mistaken idea is that the sculptors of ancient times were also architects. Some instances occur where, like the Italian, Michael Angelo, a prominent sculptor of Greece or Rome, made architecture one of his accomplishments, but they were not as numerous as they are supposed to have been, and the rule seems to be the reverse: that the sculptors of antiquity had no technical knowledge of architecture, and that the arts were quite as distinctly practised as professions in early times as they are to-day.

There remains to be presented only one other reason for the indifference shown the early architects by their contemporary writers and public, which is so well expressed by an English historian in his discussion of the Coliseum at Rome, that it may well be quoted as a type of the excuse offered by apologists of the same class: "The name of the architect to whom the great work of the Coliseum was entrusted has not come down to us.*

*There is an old ecclesiastical tradition, which is much doubted, that the architect of the Coliseum was a Christian by the name of Gaudentius, who suffered martyrdom in its arena, and that the services of thousands of Jews contributed to its erection.

The ancients seem themselves to have regarded this name as a matter of little interest; nor in fact do they generally care to specify the authorship of their most illustrious buildings. The reason is obvious. The forms of ancient art in this department were almost wholly conventional, and the limits of design within which they were executed gave little room for the display of original taste and special character. . . . It is only in periods of electicism and Renaissance, when the taste of the architect has wider scope and may lead the eye instead of following it, that interest attaches to his personal merit. Thus it is that the Coliseum, the most conspicuous type of Roman civilization, the monument which divides the admiration of strangers in modern Rome with St. Peter's itself, is nameless and parentless, while every stage in the construction of the great Christian temple, the creation of a modern revival, is appropriated with jealous care to its special claimants." In other words, the pupil is a fitter artist to awaken the personal interest of those who admire his works than his master; and the revived imitation of more consequence to the public than the original model. If this were true, why should the Coliseum, "the most conspicuous type of Roman civilization," upon which the pilgrims of the North, as we are informed by Gibbon, based the longev-

ity of Rome itself, when in their rude enthusiasm they gave expression to the proverb, "As long as the Coliseum stands, Rome shall stand; when the Coliseum falls, Rome will fall; when Rome falls, the world will fall," *divide* the admiration of the stranger with St. Peter's? Should it not, rather, be subordinate to the Christian cathedral of Bramante, Raphael and Michael Angelo? Is there not a touch of the *reductio ad absurdum* in this argument? Such reasoning does not seem to be quite obvious upon other grounds as well. If it is the fact that the ancients regarded the names of their architects as of little interest, and their buildings as wholly conventional, why does Vitruvius speak of four of the principal temples of Greece as "having raised their architects to the summit of renown"? Why is it that Rhœcus and Theodorus, Ictinus, Mnesicles, Dinocrates, Detrianus, Apollodorus and many other architects—to whom more particular mention will be made later—are remembered in ancient history with more or less circumstantiality, not only in association with their works—all conventional, if we are to accept this writer's judgment—but also on account of their individual merit, while the architects of the buildings which departed most from that same conventionality, both in plan and detail, as, for example, the Erechtheum, the

original Odeon of Pericles and even the Coliseum itself, where:

"Firm Doric pillars formed the solid base,
The fair Corinthian crown the higher space,
And all below is strength, and all above is grace,"

are lost in the ocean of oblivion?

Do not our modern authors overlook the fact that the architects of their own age share, as a rule, in the same popular indifference, and that the period of revival is no exception to the period of inception; that the one has inherited from the other not only the forms and principles of its art, but the same neglect of its artists?

Whether this is true or not, the fact must remain and be accepted with patience or impatience, as we please, that there is little preserved for us by the ancient writers in respect to their architects. Two rather conspicuous exceptions, however, occur to this general rule in respect to Pausanias, the Lydian, and Vitruvius Pollio, the Roman.

Pausanias lived toward the close of the second century after Christ. He was a great traveller and a close observer, his observations having been confined principally to works of art, such as public buildings, temples and statues, which he mentions in direct and simple language. He visited most of the states of Greece at a

time when that country was still rich in her treasures of art, and what he has to say of what he saw there would tend to indicate that while he was by no means a critic or a connoisseur, he was still a faithful and minute recorder of what appealed to his taste or excited his curiosity.

Vitruvius, however, was not only a writer on architecture, but a professional architect as well, who resided in Rome about a century earlier than Pausanias, or in the time of Augustus. He is practically the only writer of his time who has given us technical information concerning the ancient buildings. Vitruvius wrote his treatises upon architecture at a very advanced age, and, it would appear, much in defence of the pure Greek models which were even in that time being corrupted. The frankness with which he hopes for fame by reason of his book, and exposes his poverty as well as the unprofessional practices of his brother architects, is not the least attractive feature of his discourse: "But I, Cæsar," he exclaims, "have not sought to amass wealth by the practice of my art, having been contented with a small fortune and reputation, than desirous of abundance accompanied by a want of reputation. It is true I have acquired but little, yet I still hope, by this publication, to become known to posterity. Neither is it wonderful

that I am known to but few. Other architects canvass and go about soliciting employment, but my preceptors instilled into me a sense of the propriety of being requested and not of requesting to be entrusted, inasmuch the ingenuous man will blush and feel shame in asking a favour; for the givers of a favour, and not the receivers, are courted. What must he suspect who is solicited by another to be entrusted with the expenditure of his money, but that it is done for the sake of gain and emolument? Hence, the ancients entrusted their works to those architects only who were of good family, and well brought up, thinking it better to trust the modest than the bold and arrogant man. These artists only instructed their own children or relations, having regard to their integrity, so that property might be safely committed to their charge. When, therefore, I see this noble science in the hands of the unlearned and unskilful of men, not only ignorant of architecture, but of everything relative to buildings, I cannot blame proprietors who, relying on their own intelligence, are their own architects; since, if the business is to be conducted by the unskilful, there is at least more satisfaction in laying out money at one's own pleasure rather than at that of another person."

Vitruvius also epitomized in his books on architecture much that had been written prior to his time by his

professional brethren of Greece and Rome, and so preserved something of what otherwise might have been entirely lost.

Allusion has been made to these two writers with some particularity, for the reason that they will be more quoted than any others in the course of this volume, but it must not be inferred that they are alone responsible for all the knowledge which has come down to us respecting the Greek and Roman architects, little and unsatisfactory as it is.

Although it has been shown that the historians and biographers of ancient Greece made no attempt to treat architects with especial favor, it would not be just, however, to close this chapter without quoting from Homer to prove that he, at least, could rank them as among those who, by serving the people in the highest sense, were entitled to unusual hospitality:

". . . What man goes ever forth
To bid a stranger to his house, unless
The stranger be of those whose office is
To serve the people, be he seer, or leech,
Or architect, or poet heaven-inspired,
Whose song is gladly heard? . . ."

CHAPTER II.

The Mythical and Archaic Architects and Builders.

HISTORY does not probe so deeply into the earliest annals of the races that inhabited the Peloponnesian peninsula, that it does not show them to have been pre-eminent as builders; nor does it follow the ancient Greek people throughout the long ages that spanned their evolution and decadence, that it does not find them in all the stages through which they passed, leaving at least some of their walls, temples or monuments to resist the ravages of all time, and the decaying influences of the elements. They built, therefore, not only well, but perhaps better than they knew, and have proved that if the creations of their intellects were immortal, as we know, the works of their hands were not altogether perishable.

The Pelasgic tribes, who were the first of which there is any record to have inhabited Greece, were great wall-builders, and past-masters of defensive

architecture in those early ages. Although we may not have the names of the individual architects among them, we have their racial works still before us to evidence the fact that whoever the architects were, they knew their business eminently well. The Acropolis at Athens possesses the finest example that remains of Pelasgic mural work, in the fortified retaining wall which surrounds it, and which is sometimes called after the race that built it, the Pelasgicum.

It is claimed also by some authorities that the Pelasgi were the original architects and builders of the "Long Walls" that connected Athens with her seaport gates, and of such parts of the peribolus as were not the authentic work of the builders under Themistocles and Cimon, and subsequent architects to be hereafter mentioned.

The Cyclopses, who belonged to Pelasgic times, were likewise remarkable wall-builders, lending their name to a kind of mural work in a manner original with them, and having the attributes of great solidity and endurance. The ruins of houses and other structures erected by them have been found also at Tiryus and Mycenæ, on the plain of Argos.

Speaking of the circuit wall at Tiryus, Pausanias describes it as being "composed of unwrought stones,

each of which is so large that a team of mules cannot even shake the smallest one;" and of Mycenæ, the more important city, a short distance from Tiryus, where the circular treasury of Atreus and other evidences of Cyclopean architecture have been excavated by Dr. Henry Schliemann, Euripides asks the question: "Do you call the city of Perseus the handiwork of the Cyclopes?"

Modern archæologists are inclined to the opinion that the Cyclopean builders were not, as originally supposed, the one-eyed giants whom Ulysses encountered in his voyages, as related in the Homeric legends, but an entirely distinct Thracian tribe, which derived its name from king Cyclops. After being expelled from Thrace, where were their early homes, they migrated to Crete and Lycia; thence following the fortunes of Prœtus, and giving him protection with the gigantic walls which they constructed as against Acrisius, his twin brother, who was very quarrelsome, as twin brothers not often are.

These Cyclopean walls, which are still to be found throughout Greece, as already stated, and also in some parts of Italy, were made of huge, uncut polygonous stones, sometimes twenty or thirty feet wide, piled upon each other without cement, frequently irregularly, with smaller stones filling up the interstices, but occasionally in regular horizontal rows. There were, in fact,

not only several kinds of these walls, but several eras in which they were built as well.

It is not, however, the intention here to discuss the nature and extent of the Pelasgic and Cyclopean constructions, it being sufficient to recall the fact that so far as the Pelasgians generally are concerned, they were not only the progenitors of most of the early architectural monuments of eastern Europe, but were skilled in the arts and learned in the fables of the gods as well, bequeathing both religious rites and many arts to their children, the Greeks. It remains only to add, also, that so closely were they identified with the art of building that it is believed their very name is derived from their leading pursuit, for it is thought that the term Pelasgi may be interpreted to mean "stone-builders" or "stone-workers."

In this allusion to the Pelasgians as builders, it was stated at the outset that the names of the individual architects among them are not known; this was perhaps unfair to Æacus, if he can be ranked as an architect, and who is classed as a Pelasgian, although of divine parentage.

Æacus was a son of Jupiter by Ægina, daughter of the river god, Asopus, and, like the Cyclopeans, he was particularly expert in the matter of walls. He was as

well a very just and pious individual or myth, who was frequently called upon to hold the scales of justice, not only as between mortals, but also immortals. He was born on the Island of Ægina, the temporary residence of his mother, after whom it was named. At the time of his birth the island was uninhabited. This very unpleasant condition of isolation for the mother and son was quickly remedied by Jupiter, who changed the ants that abounded there into men, placing Æacus over them as king.

Æacus always kept on the very best of terms with the gods, propitiating them in many ways, and at last becoming a great favorite with them. Indeed, so strong was his influence in celestial circles that at one time when Greece was afflicted with a drought, in consequence of a murder that had been committed, the Delphic oracle declared that the only person who could help the situation at all was Æacus. He was accordingly appealed to and persuaded to petition the gods for relief. The result was that his petition was favorably answered. Æacus thereupon erected a temple to Zeus Panhellenius on Mount Panhellenion to show his gratitude, and possibly to keep himself in that position where he might trespass upon the good-nature of his heavenly friends again at some future time, should there be necessity.

Æacus surrounded his island with high walls to protect his people against pirates. It is probable that these walls attracted the admiration of Apollo and Neptune, and prompted them to retain the professional services of their builder to assist them in erecting the walls of Troy. But here it was that Æacus failed, for as one diamond can only be accurately judged when placed in comparison with another diamond, so Æacus, however successful he may have been as a wall-builder by himself, was outclassed when he came into competition with the occult knowledge of Apollo and Neptune.

The story is that when the Trojan walls were completed, three dragons appeared and rushed upon them to test their strength. The two dragons which attacked those parts of the walls built by the celestial associates of Æacus had their heads broken for their pains, but the one which flew at the mortal's share of the work made a hole in the wall which let it into the city. Apollo at once prophesied that Troy would eventually fall through the hands of the Æacids, which prophecy, of course, proved true. Whether this failure had anything to do with the future of Æacus or not, it would be difficult to say, but the fact is that after his death he became one of the three judges in Hades, with special jurisdiction over the

Europeans, which necessarily insured his being overworked until the end of time.

With a people possessed of so large and varied an assortment of deities, suited to every possible human need and shade of mortal endeavor, it would be strange indeed if there was not some mythical or legendary character among the Greek gods to preside over architecture, if not as a distinct art, at all events in association with some of its kindred branches. That the Greeks did not ignore such a necessity is found to have been the case, and the great Dædalus rises most admirably to the occasion in personifying the early infancy of architecture as well as sculpture and wood-carving.

Dædalus, like most of his spiritual relations and associates, led a life of much romance and adventure, not unmixed with hardship and trial. He was either a native Athenian or Cretan, a point upon which there is some dispute, as well as upon another involving his parentage. It is perhaps sufficient to know that Dædalus flourished in the age of Minos and Theseus, and was introduced more or less into the legends pertaining to those two early characters.

It is upon Dædalus that responsibility must rest for the first introduction of jealousy into the personality of

artists, a vice, by the way, which they have never been quite able to shake off from his time to the present. Dædalus was rather sorely afflicted with this unfortunate trait, and to its early exhibition is due much of his subsequent misfortune. It was in connection with his devotion to sculpture that his jealousy first involved him in trouble. He became very expert as a carver generally, and undertook to instruct his nephew Perdix in the art. In due time and under the careful tutorage of his uncle, Perdix also became proficient, and in a moment of inspiration is said to have invented that very useful tool of the mechanic, the saw. This it was that excited Dædalus, who, in a fit of jealous rage, threw his nephew over the Pelasgic walls of the Acropolis, killing him instantly as he supposed.

Dædalus was, of course, condemned to death for this unseemly and cruel manifestation of envy, but managed to escape and fly to Crete. There his professional reputation had preceded him, and he obtained the friendship of king Minos. In Crete he developed his latent architectural skill, and built a very elaborate and intricate dwelling for the hideous monster Minotaur, since known as the celebrated labyrinth at Cnossus. The story of how Theseus, with the connivance of Ariadne, the charming daughter of Minos, slew this monster, is one

of the most thrilling of the mythological legends, and is quite familiar.

Just how Dædalus incurred the displeasure of Minos does not seem to be very clearly stated by the early authorities. It appears that he was in some way entangled with the creation of a wooden cow, also with Pasiphaë, the wife of Minos, and even with the birth of the horrible Minotaur. Possibly it may have been Minos who this time became jealous. However that may be, the friendship which had existed between Dædalus and the king finally became strained, and the former was compelled to fly the country, which he did in a very literal way, as king Minos had seized all the ships on the coast of the island, cutting off, in consequence, the only means of escape. The architect, however, possessed much ingenuity and inventive genius of his own, even to a more marked degree than that manifested by the nephew he had dropped over the Athenian precipice, and with the aid of some feathers, a little wax, and Pasiphaë, who secretly contributed her assistance, he manufactured a pair of wings for himself, and another pair for his son, Icarus, who was with him at the time. Thus it will be seen that the first flying machines were invented by an architect.

When the father and son started for Sicily, over the

THE FLIGHT OF DÆDALUS AND ICARUS.

Ægean sea, like a pair of huge birds, Dædalus flew conservatively and cautiously, being careful not to rise too near the sun, where it was supposed by the ancients to be very hot; but Icarus, with the spirit of youth and the enjoyment of the exhilaration consequent upon the novelty of his method of locomotion, gave a deaf ear to the protests of his father, and, in emulation of Apollo, soared so high that the sun melted the wax in his wings. His feathers flew off, and down he dropped into the waves below. He was drowned, and that part of the Ægean sea into which he fell was afterward called the Icarian sea, in commemoration of this unfortunate accident, which Darwin has so well described in verse:

" . . . With melting wax and loosened strings,
Sunk hapless Icarus on unfaithful wings;
Headlong he rushed through the affrighted air,
With limbs distorted and dishevelled hair;
His scattered plumage danced upon the wave,
And sorrowing Nereids decked his watery grave.
O'er his pale corse their pearly sea-flowers shed,
And strewed with crimson moss his marble bed;
Struck in their coral towers the passing bell,
And wide in ocean tolled his echoing knell."

Dædalus, who could not stop to rescue his son, continued steadily on his course, and, attempting no experiments with his frail wings, finally landed safely in Sicily, where he established himself again, profession-

ally, under the royal patronage of Cocalus, king of the Sicani. Here he did most excellent work, until king Minos, his old enemy, found him out, and began to make it unpleasant for him again. Minos, hearing that Dædalus was in Sicily, sailed with a great fleet to that island, but fortunately for the architect, his enemy was murdered as soon as he arrived there by Cocalus or his daughter. In the mean time Dædalus, anticipating the trouble that was in store for him, again made an escape, this time to Sardinia, where he tarried a while, but finally visited other countries, notably Egypt.

These are the substantial facts of Dædalus's career, as contained in the earlier legends, but later Greek writers tell a much more fanciful and improbable story of his life, which there is no urgent necessity to believe, as the one mentioned is quite fanciful enough and probably more authentic. They say, among other things, that Dædalus was an astrologer, and that he taught his son that science, who, soaring above plain truths, lost his wits and was drowned in an abyss of difficulties.

Dædalus may have been an astrologer and may have been other things as well, but that he was an architect cannot be doubted from the fact that so many buildings are ascribed to him. Among his works may be mentioned the Colymbethra, or reservoir in Sicily, from

which the river Alabon flowed into the sea; another an impregnable city near Agrigentum, in which was the royal palace of Cocalus; still another a cave in the territory of Selinus, in which the vapor arising from a subterranean fire was received in such a way as to answer for a vapor bath. He enlarged the summit of Mount Eryx for a foundation for the temple of Venus, and he is said to have been the author of the temples of Apollo at Capua and Cumæ, and the temple of Artemis Britomartis in Crete. In Egypt he was the architect of a very beautiful propylæum, or vestibule to the temple of Hephæstus at Memphis, for which he was rewarded by being permitted to erect in it a statue of himself, the work of his own hands.

As a sculptor he also executed many works of art—but the architectural side of his career can only be considered here. It will not be out of place, however, to mention some of the inventions ascribed to him to assist the mechanic. It is claimed for him that he was an expert carpenter, having been taught that trade by Minerva, and that he originated the axe, the plumb-line, the auger and glue.

Dædalus, in fact, seems to have personified the earliest Grecian art, and his name, which, when translated, signifies "ingenious," or "inventive," stands for that

period in Greece when form and shape and expression were given inanimate substances by the use of tools and mechanical appliances.

When Dædalus threw his nephew over the high walls of the Acropolis, and naturally thought that he had killed him—an opinion in which it is apparent the people of Athens shared—he was very much mistaken, for Minerva, the patron goddess of the city, realizing what a great mistake it would be to allow so bright and promising a young man to go to an early death, exercised her magic, and saved him by changing the falling artisan into a bird, which was given his name, "Perdix," or, as translated, Partridge.

To Perdix, who was especially skilful as a worker in wood, is attributed, in addition to the invention of the saw, suggested to him by the backbone of a fish or the teeth of a serpent, it would be difficult to say which, the chisel, the compasses and the potter's wheel. Whether he invented any of these things after he became a partridge or not is another mythical uncertainty, but probably not, as his changed condition and feathers would have made it very awkward for him to have done so, although most anything was possible in those days.

Perdix is also called Talos by some writers, and Pausanias mentions him by still another name, Calos, and

states that after his death he was buried somewhere on the road leading from the theatre in Athens to the Acropolis.

It might be interesting, but certainly a task beyond the scope of this book, to mention all the mythical personages of the archaic or early period of Grecian art, who were in a way more or less remote, responsible for special features of artistic treatment that graced the buildings of that time, such, for instance, as Dibutades, who was the first to make masks on the edges of gutter tiles. Dibutades was a sculptor, and the idea which he originated is said to have been suggested to him by seeing his daughter trace the lines of her lover's profile around the shadow which it cast upon a wall. He filled in the lines with clay, and, moulding it to the face, gave to the world the art of modelling.

Among the artists belonging to the Dædalien, or legendary period of Greece, who may be classed more distinctively as architects, however, were Polycritus, who had to do with the building of the town of Tanagra by Poemander, and Pteras, who was supposed to have been the architect of the second temple to Apollo at Delphi. The legend is that the first temple was made of branches of the wild laurel from Tempe, and that Pteras constructed the second of wax and bees' wings—rather an

unsubstantial building material, it might be inferred. Eucheir, a painter, and Chersiphron and Smilis, architects and statuaries, are also of this traditional period, and were representative of skill in their arts.

All these names, however, although supposed to have been originally purely mythological, were probably later assumed by or given to mortals who were specially expert in the particular branch of art which the name taken suggested. These individuals, to complicate matters, no doubt, became entangled with the early mythological stories, and finally lost their identity completely, or to such an extent as to make it quite impossible to separate the fact from the fiction in their respective cases.

An illustration of such a confusion is to be found in respect to the architects, Rhœcus and Theodorus, who had to do with the building of the temple of Hera at Samos, for the worship of which goddess Samos was celebrated, and who, in association with Smilis, were the architects of the labyrinth at Lemnos.

The writers who have mentioned these artists are quite numerous, and have so differed in respect to their dates, and confounded the accounts of their careers and achievements, that it is difficult to sift anything like a satisfactory story from the confusion created. The

most probable deduction that has been made, however, is that Rhœcus flourished about 640 B.C., and was a son of Phileas of Samos; that Theodorus, the architect, was his son, and that another Theodorus, a statuary, sometimes mistaken for the architect, was a nephew of the architect Theodorus, the son of Telecles, also a gifted sculptor, and a grandson of Rhœcus.

The temple of Hera, alluded to as the work of the father and son, was three hundred and forty-four feet long by one hundred and sixty feet wide, and, according to the "Antiquities of Ionia," a decastyle, dipteral structure, or possessed of a double row of columns composed of ten columns in each row. Pausanias thinks that the temple was of very great antiquity, a fact apparent to him from the statue of Hera which it contained, which was made by Smilis, of wood, as were the early statues of Greece.

The Lemnian labyrinth, according to Pliny, contained fifty columns and innumerable statues, and had very remarkable massive gates, so delicately poised that a child might open or shut them. Modern travellers have had difficulty in finding any trace of this labyrinth, although there is little doubt that it once existed. It is not to be classed with the more visionary labyrinth in which the Minotaur was caged.

It is claimed for both Rhœcus and Theodorus that they were the first to invent the art of casting statues in bronze or iron, but as this art was known before their time by the Phœnicians, it is likely that they were responsible for nothing more than having introduced it into Greece. This is probably true also of other early mythical characters of Greece, to whom is attributed certain inventions in the arts which have been found since to have existed much earlier than their time in Egypt or elsewhere.

Theodorus is also credited with having been the architect of the old Scias at Sparta, and of having advised the use of charcoal beneath the foundation of the temple dedicated to Artemis, at Ephesus, as a remedy against the dampness of the site. Theodorus was a great admirer of his father and of the temple to Hera, which they built together. He attested his appreciation of the latter by writing a book descriptive of it.

As for Smilis, who belongs to the mythical period, and whose name when translated stands for "a knife for carving wood," or "a sculptor's chisel," he is also accredited with having been the first to devise the art of modelling in clay. He is to be classed more as a sculptor than an architect, but of an inferior standing to Dædalus. In fact, his only connection with architec-

ture, according to Pliny, seems to have been his association with Rhœcus and Theodorus in the building of the labyrinth at Lemnos. It is possible that even here he was employed more in the line of a sculptor than in lending any professional assistance as an architect.

Pausanias mentions a pupil of Theodorus of Samos, who, it would appear, achieved considerable distinction both as an architect and sculptor, but more especially in the latter capacity. His name is given as Gitiadas, and his birthplace as Lacedæmon, where he flourished about 724 B.C., as stated by some authorities, but much later according to others. The architectural work for which he receives credit was the temple of Athena Polionchos at Sparta, which, it is said, was constructed entirely of bronze. It also contained a bronze statue of the goddess of Gitiadas's own workmanship, and many bas-reliefs representing the labors of Hercules, the exploits of the Tyndarids, Hephæstus releasing his mother from her chains, the Nymphs arming Perseus for the expedition against Medusa, and other mythological subjects, all executed in the same metal. This extensive use of bronze suggested the name "Brazen House," which was given the temple. It would seem that Gitiadas was possessed of other accomplishments, and served Minerva

with equal distinction as a poet, writing his poems all in the Doric dialect.

A still stranger *compôte* of fact and fable, of hypothesis and conjecture, of celestial and terrestrial biography, is to be found in the accounts of the Brothers Agamedes and Trophonius, who were the architects of the great temple of Apollo at Delphi, and of the treasury of Hyrieus, king of Hyria in Bœotia.

The temple to the beautiful and accomplished son of Jupiter and Latona, the god of music and prophecy, as well as other things of equal or less consequence, was the fourth to be erected upon the same site on Mount Parnassus, in the ancient city of Delphi, known to the older poets as Pytho, a name derived from the serpent Python which Apollo slew. In this temple, which was the first of the four to be built with stone, the others having been constructed out of the branches of the bay tree and other equally perishable materials, dwelt the much respected and frequently consulted Delphic Oracle. The spot in the temple from which the prophetic vapor issued to inspire the priestess with second sight was said to be the central point of the earth, and that where the two eagles despatched by Jupiter to ascertain that point met and fell.

Pythia, the priestess of Apollo, who gave mouth to

the oracles, sat on a sacred tripod placed over the opening from which the vapor issued, and gave forth her words of wisdom in prose or poetry as the occasion demanded. If in prose, her prognostications would be immediately verified, and if in verse some time must elapse before they could be fulfilled. Pythia was not always on duty, but could be consulted only on certain days during the month of Busius in the spring.

There is no doubt but that she made some very remarkable prophecies, but, alas! it is also recorded that, like some of the political oracles of these degenerate times, her prophetic vision was not infrequently influenced by "a previous interview." A notable case of this kind was that in which the Alcmæonidæ were entangled; who for political reasons and effect rebuilt the same temple after it was destroyed by fire in the year 548 B.C., as we shall see later.

But we have drifted from the subject. It is claimed by some that Agamedes was the son of Stymphalus, who was murdered and had his body cut up in pieces, and a grandson of the old ancestor of the Arcadian Arcas, who in turn was a son of Zeus. Others say that the father of Agamedes was Apollo, and his mother was Epicaste, and still others are of the opinion that his parents were none other than Zeus himself and Iocaste, another name

for Epicaste, and that Trophonius was his son. All this genealogy is, however, disturbed if we accept the more probable one, that he was a son of Erginus, king of Orchomenus, and that he was a brother of Trophonius. By the way, Trophonius is also said to have been a son of Apollo. When these two young men attained to manhood they became very expert in the art of building temples to the gods and palaces for kings. Thus having established enviable reputations in their profession, they were retained to plan and supervise the works mentioned.

It is in respect to these architects that the first authentic account of a misunderstanding as to professional compensation is related. It must not be thought that because some of the early architects were related to the nobility of Mount Olympus, they were any the less mercenary than are architects in our own time, or were any more inclined to work for nothing than are their professional descendants of to-day.

Plutarch tells us that Agamedes and Trophonius, after working hard upon the Delphic temple, and not receiving any pay, began to lose faith in the mortals who were backing the undertaking. As they grew more and more dubious about their compensation, and possibly having notes or bills to meet, they finally decided to

appeal directly to Apollo, in whose glorification the shrine had been built.

Apollo, who was consulted through the Delphic Oracle, informed them that he must have time to think the matter over. In other words, he could not be hurried in his decision, but would give them an answer at the end of seven days. It is not unlikely that the Oracle saw an occasion here where it might be a matter of financial prudence to consult with the other side before rendering a decision. However that may be, the two architects were told that Apollo wished that they should spend the intervening time in "festive indulgence." Thinking from this, quite naturally, that they were in the good graces of the god, and suspecting no ungodly duplicity, Agamedes and Trophonius set about to enjoy themselves according to the most liberal interpretation of their instructions. The result was that at the end of the seventh day they were found dead in their beds, whether from too much festivity on their part or too much duplicity on the part of the Oracle, no one knows, but the inference is conclusive that as they were dead it was not necessary to give them the professional compensation they had been so anxiously demanding.

Cicero tells the story a little differently, and eliminates the question of compensation from it. He says that

they consulted Apollo to know what in his opinion was "best for man"? This being a much easier question to handle, Apollo took but three days to answer it, but the consequences of the consultation to poor Agamedes and Trophonius were quite as disastrous. It may be that, taking everything into consideration, it is best for man to be dead, but most architects don't think so, and had Agamedes and Trophonius anticipated such an answer, it is probable that they would have asked no questions.

Pausanias relates an altogether different legend and connects it with the treasury of Hyrieus, which Agamedes and Trophonius built, instead of with the temple of Apollo. The story by Pausanias would tend to show that these architects were even more mercenary than Plutarch has given us to understand they were.

It seems that in constructing the treasury they contrived to have a stone so placed that it could be taken away from the outside of the building at any time, and thus offer an entrance to the vaults. No one of course had any knowledge of this secret entrance but themselves. In consequence, after the building was finished, and it was used for the purpose for which it was intended, these two covetous brothers carried away from time to time goodly portions of the treasure as it was deposited. The king soon heard that there was a leak in

his treasury, and that he was losing money rapidly. He was naturally annoyed and much perplexed when he found that the locks and seals of his treasure house remained intact and uninjured. He thereupon set a trap to catch the thief. Just what kind of a trap it was is not explained, but after some little time Agamedes was caught, and Trophonius, finding his brother ensnared, cut off his head, to save his own, doubtless, and prevent the discovery of his association in the robbery. This very unfraternal act of Trophonius was not allowed to go unpunished, however, and Apollo, or some other god, caused him to be swallowed up in the grove of Lebadea.

Pausanias further states that Erginus, the father of Agamedes, was known as the "Protector of Labor," that Trophonius was called the "Nourisher," and that Agamedes had the reputation of being the "Very Prudent One." There can be no doubt about Agamedes's prudence, such as it was.

Trophonius, it appears, had a still further career after his death, as an oracle, conducting his business from the spot where he was swallowed up in Lebadea. He was especially prophetic in matters relating to futurity. Those desiring to consult him were conducted to a cavern, and furnished with a ladder, by means of which

they could descend into it. They were then given the information for which they were in quest, either by means of their eyes, or their ears, or such of their senses as the occasion seemed best to suggest. Some say that one of these visitors, after having gone into the cave, and being treated in this way by the oracle, returned never to smile again; but Pausanias contradicts the story.

There is another belief in regard to these architects which must be simply alluded to. It is that Agamedes and Trophonius were deities of the Pelasgian times; that Trophonius was a giver of food from the bosom of the earth, and for that reason was worshipped in a cavern, and that Agamedes was not the wretched thief of Pausanias, but, on the contrary, a very generous character, who gave liberally from underground granaries.

A parallel to the story of the robbery of the treasury of Hyrieus by Agamedes and Trophonius is told by Herodotus in respect to the two sons of the builder of the treasury of the Egyptian king Rhampsinitus. These two young men, it seems, were also caught, while pilfering, in a trap, described with great circumstantiality by the "Father of History."

CHAPTER III.

The Originators of the Three Orders.

WHO were the originators of the three great and primary orders of Grecian architecture is still a question which the discussion of the legendary and mythical architects, which has been briefly entered into, has not answered. It may be assumed inferentially that as the earliest of the Greek temples which have been referred to as the works of the progeny of the gods were in the Doric style, the pagan deities of Greece may claim some share of credit for having introduced that noble design to the world. The Ionic and Corinthian styles, however, are still to be accounted for, and as there is good ground to assume that they made their advent into architectural art at much later dates no celestial origin can be claimed for them.

Vitruvius, in relating his account of the origin of all three orders, alludes more directly to the birth of the Doric, and tells a story so picturesque and entertaining

of the other two that although recognizing how well it may be known to the professional architect, it is difficult to resist the temptation to give it here entire:

"Dorus, the son of Hellen, and the nymph Orseis, reigned over the whole of Achaia and Peloponnesus, and built at Argos, an ancient city, on a spot sacred to Juno, a temple which happened to be of this order. After this many temples similar to it sprung up in the other parts of Achaia, though the proportions which should be preserved in it were not as yet settled.

"But afterward when the Athenians, by the advice of the Delphic Oracle in a general assembly of the different states of Greece, sent over into Asia thirteen colonies at once, and appointed a governor or leader to each, reserving the chief command for Ion, the son of Xuthus and Creusa, whom the Delphic Apollo had acknowledged as son, that person led them over into Asia, and occupied the borders of Caria, and there built the great cities of Ephesus, Miletus, Myus (which was long since destroyed by inundation, and its sacred rites and suffrages transferred by the Ionians to the inhabitants of Miletus), Priene, Samos, Teos, Colophon, Chios, Erythræ, Phocæa, Clazomenæ, Lebedos and Melite. The last, as a punishment for the arrogance of its citizens, was detached from the other states in a war levied

pursuant to the directions of a general council; and in its place, as a mark of favor toward King Attalus and Arsinoe, the city of Smyrna was admitted into the number of Ionian states, which received the appellation of Ionian from their leader Ion, after the Carians and Lelegæ had been driven out.

"In this country, allotting different spots for sacred purposes, they began to erect temples, the first of which was dedicated to Apollo Panionios, and resembled that which they had seen in Achaia, and they gave it the name of Doric, because they had first seen that species in the cities of Doria. As they wished to erect this temple with columns, and had not a knowledge of the proper proportions of them, nor knew the way in which they ought to be constructed, so as at the same time to be both fit to carry the superincumbent weight and to produce a beautiful effect, they measured a man's foot, and, finding its length the sixth part of his height, they gave the column a similar proportion—that is, they made its height, including the capital, six times the thickness of the shaft, measured at the base. Thus the Doric order obtained its proportion, its strength, and its beauty from the human figure.

"Under similar notions they afterward built the temple of Diana, but in that, seeking a new proportion,

they used the female figure as the standard; and for the purpose of producing a more lofty effect they first made it eight times its thickness in height. Under it they placed a base, after the manner of a shoe to the foot; they also added volutes to its capital, like graceful, curling hair, on each side, and the front they ornamented with cymatia and festoons in the place of hair. On the shafts they sunk channels, which bear a resemblance to the folds of a matronal garment. Thus two orders were invented, one of a masculine character, without ornament, the other bearing a character which resembled the delicacy, ornament and proportion of a female.

"The successors of these people, improving in taste, and preferring a more slender proportion, assigned seven diameters to the height of the Doric column and eight and a half to the Ionic. That species, of which the Ionians were the inventors, has received the appellation of Ionic.

"The third species, which is called Corinthian, resembles in its character the graceful and elegant appearance of a virgin, in whom, from her tender age, the limbs are of a more delicate form, and whose ornaments should be unobtrusive. The invention of the capital of this order is said to be founded on the following occurrence: A Corinthian virgin, of a marriageable age, fell

THE ORIGIN OF THE CORINTHIAN CAPITAL.

a victim to a violent disorder. After her interment her nurse, collecting in a basket those articles to which she had shown a partiality when alive, carried them to her tomb, and placed a tile on the basket for the longer preservation of its contents. The basket was accidentally placed on the root of an acanthus plant, which, pressed by the weight, shot forth, toward spring, its stems and large foliage, and in the course of its growth reached the angles of the tile, and thus formed volutes at the extremities. Callimachus, who for his great ingenuity and taste was called by the Athenians Catetechnos, happening at this time to pass by the tomb, observed the basket and the delicacy of the foliage which surrounded it. Pleased with the form and novelty of the combination, he constructed from the hint thus afforded columns of this species in the country about Corinth."

The comments of Sir Henry Wotton in his "Elements of Architecture," written in England during the latter part of the sixteenth century, upon this legendary account of the source of the three orders given by Vitruvius, are sufficiently attractive and quaint in language and spelling to warrant their being quoted also:

"The Dorique order is the gravest that hath been received into civil use, preserving in comparison of those

that follow a more *masculine aspect* and little trimmer than the Tuscan that went before, save a sober garnishment now and then of *lions' heads* in the *cornice* and of *triglyph* and *metopes* always in the *frize*. . . . To discern him will be a piece rather of good *heraldry* than of *architecture,* for he is knowne by his place when he is in company and by the peculiar ornament of his *frize,* before mentioned, when he is alone. . . . The *Ionique order* doth represent a kind of feminine slenderness; yet, saith Vitruvius, not like a housewife, but in a decent dressing hath much of the *matrone*. . . . Best known by his trimmings for the bodie of this *columne* is perpetually *chaneled,* like a thick-pleighted gowne. The *capitall,* dressed on each side, not much unlike women's wires, in a spiral wreathing, which they call the *Ionian voluta*. . . . The *Corinthian* is a columne lasciviously decked like a courtezan, and therefore in much participating (as all inventions do) of the place where they were first born, Corinth having beene, without controversie, one of the wantonest towns in the world."

As for the Composite order, which, as has been already stated, is but a mixture of the Ionic and Corinthian, it would seem that Sir Henry has very little patience. He says with a contempt which he makes

little effort to conceal: "The last is the *compounded order,* his *name* being a briefe of his *nature:* for his pillar is nothing in effect but a *medlie,* or an *amasse* of all the preceding *ornaments,* making a new kinde of stealth, and though the most richly tricked, yet the poorest in this, that he is a borrower of his beautie."

There are those who in relentless search for truth at the expense of sentiment and poetry would spoil the pretty story which Vitruvius tells of the invention of the Corinthian capital by claiming for Egypt the distinction of being the mother-country of the order, and ascribing to that form of the Egyptian capital that bells out toward the abacus, and which is surrounded by open lotus leaves, as the archetype of the last of the three Grecian orders. There is, however, more probability to the story of Callimachus than there is similarity between the Egyptian and Corinthian capitals, in our opinion.

If we accept Callimachus as the originator of the Corinthian, although there does not appear any name of an architect to receive the individual credit for the invention of the Doric order, we may as well accept the deduction which Vitruvius draws in respect to Hermogenes, an Ionian architect, who is said to have flourished about 600 B.C., and credit him at the same time

with being the first to introduce the feminine proportions and attributes into his art, and with having perfected, if he did not originate, the queenly Ionic order.

"When Hermogenes was employed to erect the temple of Bacchus at Teos," says Vitruvius, "the marble was prepared for one in the Doric style; but the architect changed his mind, from the idea that other proportions, afterward called Ionic, were more suitable for the purpose, almost inducing the inference that Hermogenes was the inventor of those delicate proportions; he appears unquestionably to have displayed great skill and ingenuity in all his designs, and to have entertained the opinion that sacred buildings should not be constructed with Doric proportions, as they obliged the adoption of false and incongruous arrangements."

Another fact which Vitruvius does not touch upon might tend to point to Hermogenes as the originator of the Ionic order. He was a native of Alabanda in Caria, and if it is true, as some authorities believe, the volute was an ornament in early use in Asia Minor, he was doubtless familiar with it; and, appreciating its graceful possibilities, introduced it into the matronly Ionic.

Hermogenes is conceded to have been one of the most celebrated architects of antiquity. In addition to the temple of Bacchus which he designed for Teos, one of

the eastern Ionian cities, and the birthplace of Anacreon, as well as other noted ancient characters, he erected in the city of Magnesia, in Lydia, a temple to Diana in the Doric order. About each of these temples he wrote a book, both of which were still in existence in the time of Augustus. In one he described the temple to Diana as a pseudodipteral, or false dipteral temple, a form which he invented. It is called false or imperfect because of the economy of the inside row of columns on each of the long sides of the cell, the outside row being allowed to remain. The effect from a distance was the same as a double row, while considerable expense was saved. The temple to Bacchus he described as a monopterus, or a round temple, having neither walls nor cell, but merely a roof sustained by columns.

Hermogenes's great ambition appears to have been a desire to foster and encourage the use of the Ionic order in preference to the Doric for temple construction. In this opinion he was later sustained by Tarchesius, another writer on architecture, who may be dated as sometime later than 470 B.C., and by Pytheus, whom we shall meet again as one of the architects of the tomb of Mausolus.

Although Vitruvius mentions the origin of the Corinthian order in close connection with that of the Doric

and Ionic, it must be borne in mind that Callimachus, whom he credits with the Corinthian, was a much later artist than Hermogenes. The use of the Corinthian column by the architect Scopas in the temple of Athene at Tegea in 396 B.C., has led to the inference that Callimachus must have lived prior to that date, and the fact that he gave to that style of architecture the appellation of Corinthian, that he was a native of Corinth. Lübke, in his "Outlines of the History of Art," however, does not give to Callimachus the full and undisputed credit for originating the Corinthian style, claiming that the order existed before his time, although he does not mention when or where. Lübke would interpret the story of Callimachus and the basket as meaning that it was he who gave to the capital its final perfection. It is somewhat strange also that although Callimachus is conceded to have been the first to develop this order, if he did not absolutely invent it, there is no mention of any building having been designed by him in the Corinthian style.

There seems to be little dispute over the fact that Callimachus was neither as a sculptor nor an architect to be placed in the van of the distinguished artists of early Greece. As a sculptor, in which capacity he is best known by his works, his style was stilted and arti-

ficial, rendered so by the artist's disposition to be finicky and fastidious in his execution. Indeed, he is said to have been unwearied in polishing and perfecting, and to have sacrificed the grand and sublime in the exercise of too great refinement and purity. Callimachus was never satisfied with himself, and possibly on that account others were not satisfied with him, as a certain degree of self-esteem is necessary to invite public approval. The Greeks gave him a name, based upon his peculiarities, which Pliny has translated as *"Calumniator Sui."* His faculty for invention was evidenced in other respects also, as he is credited with having originated the art of boring marble, and Pausanius describes a golden lamp which he invented, and which he dedicated to Athene, which when filled with oil burned exactly a year without going out.

It may be said broadly of the Grecian people in their employment of the three grand orders of architecture that the first two—namely, the Doric and Ionic—more closely harmonized with the dignity and nobility of their national character. In fact, Greece arrived at the pinnacle of her civilization and brought her philosophy of human existence not only in theory, but in practice, to its highest ideals before the Corinthian order of architecture appeared to claim a share in her

artistic reputation. The stately solidity of the Doric and the graceful purity of the Ionic lent the perfection of architectural framework to the mental strength and loftiness of ideal of the Hellenic people. They seemed to accord with the philosophy that was originally preached from under the shadow of their pediments and entablatures. We can almost see the doubting and mystified Theon stepping from the Doric portico where Zeno held forth, to compare that philosopher's stoical dogmas with the doctrines of Prudence preached in the Ionic-encompassed garden of Epicurus, by a philosopher ever destined to be misconstrued and wrongfully interpreted.

"All learning is useful," taught Epicurus; "all the sciences are curious; all the arts are beautiful; but more useful, more curious and more beautiful is the perfect knowledge and perfect government of ourselves. Though a man should read the heavens, unravel their laws and their revolutions; though he should dive into the mysteries of matter, and expound the phenomena of the earth and air; though he should be conversant with all the writings and sayings and actions of the dead; though he should hold the pencil of Parrhasius, the chisel of Polycletas or the lyre of Pindar; though he should be one or all of these things, yet not know the

secret springs of his own mind, the foundation of his opinions, the motives of his actions; if he hold not the rein over his passions; if he have not cleared the mist of all prejudice from his understanding; if he have not rubbed off all intolerance from his judgments; if he know not to weigh his own actions and the actions of others in the balance of justice, that man hath not knowledge, nor, though he be a man of science, a man of learning or an artist, he is not a sage. He must sit down patient at the feet of Philosophy. With all his learning he hath yet to learn, and perhaps a harder task, he hath to *un*learn."

The Corinthian order, on the other hand, notwithstanding all its charm, beauty and variety, seemed to lack that steadfastness of character which bound so firmly the other two orders to the hearts of the Grecian people, and was never admitted into their fullest trust and confidence. Indeed, it is generally conceded that the Corinthian model grew in favor as the architectural art of Greece declined; and only when Greece, losing her autonomy, began to lose her ambition and intellectual greatness and independence. It reached its fullest vogue with the later or Greco-Roman architects, who sacrificed much of purity in art for lavish and sightly display. With the Greeks the Corinthian was sparingly

employed, and generally called upon for their smaller and less important buildings; on the other hand, with the Romans, enriched by additional features and ornamentation of their own, it became the favorite order, not alone for portico and temple, but for public and private buildings of every nature.

CHAPTER IV.

Early Grecian Architects.

IN the year 548 B.C. the great temple to Apollo at Delphi, the work of the legendary architects Agamedes and Trophonius, was destroyed by fire. Of the four temples to the same deity that had been reared upon the same site, this was the first in which marble was employed as a building material. Naturally the question will present itself, how could a temple built of marble be destroyed by fire? The answer is, that while the main walls of the cell and the columns, entablatures, pediments and other exposed parts of the early Greek temples were built of marble, stone or sun-dried bricks, the roofs were generally of wood, and were heavily timbered, sometimes calling for great strength to support marble tiles. Much of the interior building material was also of wood, as well as the statuary with which the earlier temples were lavished and enriched. Thus if fire was started within the building, either by accident or, as not infrequently

happened, by the hand of an incendiary, there was sufficient combustible material for it to feed upon and to heat the entire structure, reducing the otherwise enduring marble to crumbling lime.

The temple of Apollo having been thus destroyed, the much revered and highly respected Oracle was left without shelter and a place of business. This state of things of course could not long be allowed to continue, and the Amphictyons, a legislative body, having under its special care the Delphic temple, at once came to the front and ordered a new temple built at a cost of about $300,000. One-fourth of this sum was to be paid by the Delphians and the remaining three-fourths were to be contributed by the other cities of Greece and those nations which were in the habit of consulting the Oracle —a very proper distribution of the expense, considering how extensive and widespread was the renown and appreciation of the priestess. Amasis, King of Egypt, volunteered a thousand talents of alumina, thus showing what his feelings were in the matter, and the Alcmæonidæ, one of the oldest and most aristocratic families of Athens, undertook the contract, it is hinted, mainly for political reasons. This may be true, as they were much involved in local politics, especially with the banishment of Pisistratus, the tyrant, and they may have

seen an opportunity in the rebuilding of this temple to make themselves very popular. They certainly went about it in the right way to achieve such a result, and did actually gain much influence by their generosity and the broadminded manner in which they disregarded the strict terms of the contract to do handsomer and better work than it called for. One particular illustration of their liberality has attracted the attention of the historian: it was the building of the temple in Parian marble, instead of Porine stone. While the Alcmæonidæ were prosecuting the work in this generous spirit, they did not neglect their fallen enemies, the Pisistratidæ, and threw out occasional innuendoes to the effect that the Pisistratidæ could tell more about the origin of the fire that destroyed the late temple than they evidently cared to, thereby intimating a crime as against their rivals that it might have been difficult to have proved. They even won the Oracle to their side by similar simple and ingenuous methods, with the result that ever afterward the Oracle did not hesitate to speak a kind word for the Alcmæonidæ and favor their native city, Athens.

The architect of this new temple was Spintharus, a Corinthian. As nothing further seems to be known of him, we have been somewhat particular to mention the

importance of this work, to show that Spintharus was an artist who stood very high in his profession at the time. But as the temple was one of the longest in process of construction, taking about seventy-two years to complete, it is not likely that Spintharus lived to enjoy the full fruition of his work.

It may be of interest to add that no structure of its kind throughout all Greece was made the depository of richer or more extensive treasure than this temple to Apollo at Delphi, a fact not to be marvelled at if we do not lose sight of the Oracle. We have already seen how it excited the cupidity of the brothers Agamedes and Trophonius. What they appropriated to themselves from the rich vaults of its predecessor was, however, comparatively insignificant to the wholesale robberies that went on from time to time of the fifth temple designed by Spintharus. Herodotus says that the wealth of Delphi was better known to the Persian Xerxes than were the contents of his own palace, and that after forcing the pass of Thermopylæ he detached a portion of his army to capture Delphi. It failed to do so, only through the interposition of the Oracle or some other deity. Many years afterward the Phocians plundered the temple of what might be represented by $10,600,000 of our money. Still later the Gauls also made a rich

haul, which the Romans afterward found in their city of Tolosa unexpended, probably because there was so much of it; and Nero is said to have taken from it five hundred bronze statues at one time.

But these robberies fade into insignificance when the insult heaped upon the Delphians and their Oracle by Constantine the Great is recalled. This Roman vandal not only removed the sacred Tripod and Brazen Column which supported it, but degenerated their use to the adornment of the hippodrome of the new city he built on the Bosphorus. The Brazen Column may still be seen in Constantinople, but the sacred Tripod has disappeared forever. There is a little story connected with a first disappearance of the Tripod that may be worth the telling. It was lost at sea, but afterward recovered by some fishermen. When Pythia was asked to decide to whom it should be given, her answer was that it should be bestowed upon the wisest man in Greece. Accordingly it was sent to Thales of Miletos. He, however, was too modest to retain it, and passed it over to Bias as a wiser man; Bias was also embarrassed by the selection, and presented it to another of the Grecian sages; he to still another, and so on, until it had made the circuit of pretty much every person in Greece with any claim at all to superior wisdom. Finally, however,

it came back once more to Thales, who successfully ended its itinerary by dedicating it to the Delphic Apollo.

One of the earliest of the great temples to be erected in the Ionic order was that begun in the Ionian city of Ephesus in Asiatic Greece by Ctesiphon, a Cretan architect born in Cnossus, and his son, Metagenes. This temple was erected to the glory of the many-breasted and mummy-like appearing Artemis, a goddess peculiar to the Ephesians, whom the Greek colonists there doubtless inherited from the Asiatic races that preceded them in their Ionian settlement. There was nothing of the graceful, virgin-like characteristics of Apollo's sister, the Arcadian Artemis, in this Ephesian goddess, but the Ionian Greeks were quite partial to her, attended her with eunuch priests, and built in her honor this temple, so grand and magnificent that it was regarded as one of the seven wonders of the world.

Before alluding to some of the interesting facts that have been preserved concerning the early history of this great temple it may not be out of place to touch upon a custom which prevailed in Ephesus in respect to the employment of architects, which Vitruvius relates. He says: "In the magnificent and spacious Grecian city of Ephesus an ancient law was made by the ancestors of

the inhabitants, hard in its nature, but nevertheless equitable. When an architect was entrusted with the execution of a public work, an estimate thereof being lodged in the hands of a magistrate, his property was held as security until the work was finished. If, when finished, the expense did not exceed the estimate, he was complimented with decrees and honors. So when the excess did not amount to more than a fourth part of the original estimate, it was defrayed by the public, and no punishment was inflicted. But when more than one-fourth the estimate was exceeded, he was required to pay the excess out of his own pocket."

The honest Vitruvius almost sighs as he adds: "Would to God that such a law existed among the Roman people, not only in respect to their public, but also of their private buildings, for then the unskilful could not commit their depredations with impunity, and those who were most skilful in the intricacies of the art would follow the profession! Proprietors would not be led into an extravagant expenditure, so as to cause ruin; architects themselves, from the dread of punishment, would be more careful in their calculations, and the proprietor would complete his building for that sum or a little more, which he could afford to expend. Those who can conveniently expend a given sum on any work with the

pleasing expectation of seeing it completed would cheerfully add one-fourth more; but when they find themselves burdened with the addition of half or even more than half of the expense originally contemplated, losing their spirits and sacrificing what has already been laid out, they incline to desist from its completion."

There are, perhaps, some people even at the present time who can be found to echo these sentiments of Vitruvius, and exclaim: Would to God that such a law existed among the American people, especially in New York and Chicago!

Theodorus of Samos, it will be remembered, laid the foundation of the temple to Artemis of Ephesus in the year 600 B.C. To guard against the destruction of the temple by earthquakes, a marshy site was chosen, and Theodorus insured a firm foundation, by using charcoal, which was rammed down solidly, and then covered with fleeces of wool. Ctesiphon and his son did not, however, begin the superstructure until about forty years later.

The dimensions of the building were very extensive, and although the architecture was full of grandeur, grace and beauty were not sacrificed. The length was four hundred and twenty-five feet; the width two hundred and twenty feet. One hundred and twenty-seven

Parian marble columns, each sixty feet in height, surrounded the cell in double rows, sixteen appearing in the front and rear façades, and forty each on the sides. Herodotus states that most of these columns were presented by the rich Crœsus, and some by other kings. The cell, according to some authorities, was devoid of a roof, but Mr. Wood, in his "Discoveries at Ephesus," indicates otherwise. The whole edifice, both exteriorly and interiorly, presented great richness and elaboration of carving. The shafts of the columns in front of the building were carved in relief, in three broad bands, to nearly half their height, and those in the rear, in one band, to about one-quarter of their height. The frieze and pediments were also worked out by the chisel of the sculptor in designs of great and imposing beauty.

Many of the stones used in the building were very massive. An idea of how huge some of these blocks were may be gathered from the fact that the architrave alone contained pieces of marble thirty feet long, and that Ctesiphon and Metagenes were forced to invent special machinery and contrivances to convey the stones for the columns to the building from the quarry eight miles distant. Vitruvius explains these contrivances as follows: "He [Ctesiphon] made a frame of four pieces of timber, two of which were equal in length to the

shafts of the columns, and were held together by the two transverse pieces. In each end of the shaft he inserted iron pivots, whose ends were dovetailed thereinto, and run with lead. The pivots worked in gudgeons fastened to the timber frame, whereto were attached oaken shafts. The pivots having a free revolution in the gudgeons, when the oxen were attached and drew the frame, the shafts rolled round, and might have been conveyed to any distance. The shafts having been thus transported, the entablatures were to be removed, when Metagenes, the son of Ctesiphon, applied the principle upon which the shafts had been conveyed to the removal of those also. He constructed wheels about twelve feet in diameter, and fixed the ends of the blocks of stone whereof the entablature was composed into them; pivots and gudgeons were then prepared to receive them in the manner just described, so that when the oxen drew the machine the pivots, turning in the gudgeons, caused the wheels to revolve, and thus the blocks, being enclosed like axles in the wheels, were brought to the work without delay. An example of this species of machine may be seen in the rolling stone used for smoothing the walks in palæstræ. But the method would not have been practicable for any considerable distance. From the quarries to the temple is a length of not more than eight

thousand feet, and the interval is a plain without any declivity. Within our own time, when the base of the colossal statue of Apollo in the temple of that god was decayed through age, to prevent the fall and destruction of it, a contract for a base from the same quarry was made with Pæonius. It was twelve feet long, eight feet wide, and six feet high. Pæonius, driven to an expedient, did not use the same as Metagenes did, but constructed a machine for the purpose by a different application of the same principle. He made two wheels about fifteen feet in diameter, and fitted the ends of the stone into these wheels. To connect the two wheels he framed into them, round their circumference, small pieces of two inches square, not more than one foot apart, each extending from one wheel to the other, and thus enclosing the stone. Round these bars a rope was coiled, to which the traces of the oxen were made fast, and as it was drawn out the stone rolled by means of the wheels; but the machine, by its constant swerving from a direct, straightforward path, stood in need of constant rectification, so that Pæonius was at last without money for the completion of his contract." The uninitiated who have speculated as to how the ancients succeeded in moving and transporting considerable distances such huge blocks of stone, without the assistance of our mod-

ern machinery and contrivances, are given in this quotation from Vitruvius some hint as to the ingenuity and inventive ability of the early architects and builders.

The temple, however, was slow in building, and Ctesiphon and Metagenes, after writing a book on their great architectural work, passed away in due course of time. Their places were filled by other architects, of whom there is no record, but Demetrius, a priest of Diana, together with Daphnis and Peonius, Ephenian architects, finally completed the work some two hundred and twenty years after it was begun by Ctesiphon and his son. In the course of that long interval, Scopas, an architectural sculptor of Paros, of whom there will be more to relate as we go on, contributed one column, which was regarded as so beautiful that it was accepted as a model for those that followed.

Together with its architectural glories, the interior was made a depository for many of the finest works of the great artists of antiquity, and Scopas is said to have introduced Caryatides here. This is doubted, but he certainly furnished a very grand statue of Hecate; and Praxiteles, with his almost equally gifted son, adorned the shrine.

Tradition relates that upon the very night that the great Alexander was born, the Ephesian temple was

destroyed by fire, through the rapacious greed for notoriety of one Herostratus. This antique fire-bug, when put to the torture for his crime, confessed that his only object was to gain immortality for his name, an ambition which he succeeded in accomplishing through the stupidity of the states-general of Asiatic Greece. They decreed that the name of Herostratus should never be mentioned, and of course it always was, as all the contemporary historians felt impelled to record the fact that a man by the name of Herostratus was not to be mentioned, and to give the reasons therefor, and much more about Herostratus which, had there been no decree, might have been left unsaid. The result was and has been that a crank of antiquity has lived by name for twenty-five hundred years, and is quite likely to live for as many more.

When Alexander the Great reached maturity, doubtless feeling the depression consequent upon having his advent into the world which he was destined to dominate, associated with the destruction of so magnificent a temple to the Asiatic Diana, offered, it is said, to pay the cost of its restoration, provided—there is frequently a proviso coupled with these liberal offers—provided his name should be inscribed on the new edifice. While the Ephesians were made glad by the offer, they did not

readily fall in with the proviso. The cleverness of their diplomatic reply, however, appealed to the susceptible side of Alexander's human nature, and effected a compromise. They told the Macedonian that "it was not right for a god to make offerings to gods."

The architect for the new temple was the great favorite of Alexander and his fellow-countryman, Dinocrates, who it is said rebuilt the edifice on even a more extravagant scale than was the first. Much of the marble and sculpturing of the old temple entered into the new, and the painters, statuaries and sculptors of the time again lavished upon it their best art. The walls were embellished from time to time by Parrhasius and Apelles; and Timarete, the first female artist of note of whom there is any record, contributed a picture of the honored Artemis. It is related that the folding doors or gates of this new temple were made of cypress that had been allowed to season for four generations, and that when the pieces of cypress wood were glued together the glue was allowed to remain for four years to harden. Mutianus, a Roman architect, states that when he found them, which was four hundred years afterward, they were as fresh and beautiful as when new.

Some remains of the splendor of this pagan temple are still doing architectural duty. The great dome of

the beautiful Byzantine church of Santa Sophia in Constantinople, now a Turkish mosque, is supported by columns of green jasper, brought from the Ephesian temple by the Roman Emperor Justinian, and two of the pillars in the cathedral at Pisa are also from the same source.

There is some confusion as to the works of art and decorations associated respectively with the two temples just described which it would be vain to attempt to clear up, believing that it matters but little, inasmuch as it is not likely that Herostratus could have destroyed completely the first temple, and that the services of Dinocrates were engaged more in the line of making good the damage done than in erecting an entirely new edifice. The upper colonnades of Corinthian columns, however, which Mr. Wood shows as appearing in the interior of the temple, are clearly the work of Dinocrates.

Demetrius, the priest of Diana, and his associates, Peonius and Daphnis, the three architects who completed the first Artemesian temple, having flourished over two hundred years after the foundation of that structure was laid, are not, of course, to be classed among the earlier of the Grecian architects, and, properly, should not be treated under this heading; but as they are

all grouped together in the erection of another great Asiatic-Greek temple, and are not further met with, it may be just as well to add what there is in respect to them at this time.

The temple referred to was that dedicated to Apollo in the Ionian city of Miletus, not far distant from the scene of the joint labors of these architects at Ephesus. Its order was also Ionic, and although not as large as that to Artemis, it could have been very little, if any, inferior to it in columnar effect and general impressive beauty, if not grandeur. It was three hundred and two feet in length by one hundred and sixty-four feet in width, and, like the temple at Ephesus, was surrounded by double rows of columns, each column, however, being sixty-three feet in height. Indeed, Strabo, the celebrated Roman traveller and geographer, who visited the ruins of the temple during the first century before the Christian era, testifies that "it is the greatest of all temples," and adds that it remained without a roof "in consequence of its bigness"; but this allusion to its roofless condition is probably due to the fact that the building was never wholly completed. Pausanias also gives it high praise, and speaks of it as one of the wonders of Ionia, and Vitruvius numbers it "as one of the four temples which had raised their architects to the summit

of renown"*—a renown, it would seem, that has been very much begrudged them, as the literature of their time furnishes practically no data in regard to them personally, and what estimate can be formed of them is wholly based upon the importance of their works.

Peonius, we are told, was an Ephesian, but as to even the nativity of the other two architects we are in the dark, although Daphnis is supposed to have been a Miletian. There is also some little uncertainty as to the exact date when they exercised their profession, but it is probably safe to say that it was sometime within the first half of the fourth century before Christ.

Two columns of the great temple to Apollo have stood proudly against the attacks of time, and although scarred by their long battles, are yet evidencing the glories of a structure of which they were once but an insignificant part.

In the year 555 B.C. there lived four architects, to whose skill was entrusted the building of a temple that should be in all respects worthy to stand for the respect due the dignity, power and extreme longevity of the great Olympian Zeus—the king-god of the Greeks.

*The other three temples which Vitruvius praised thus highly were those to Diana at Ephesus, Jupiter Olympus at Athens, and Ceres at Eleusis.

The foundation for this shrine was laid in the time of Pisistratus, a tyrant of Athens, who contributed several architectural works to that city, but whose several banishments greatly interrupted their building. This was particularly the case with the great temple to Zeus. However, it was sufficiently advanced for Pisistratus to dedicate it before he fell from power. It has been stated that it was due to the genuine dislike which the Athenians felt for Pisistratus and his sons, who succeeded him, that four hundred years were allowed to flow by before the temple was finished. This is hardly just to a ruler of great loyalty to his native city, and of unquestioned integrity in the discharge of his public duties. It is more probable that the delay was due to the animosity of the rival Athenian family of Alcmæonidæ, who, piqued by jealousy, fanned a flame of opposition to the works of Pisistratus that continued for several centuries.

Antistates, Antimachides, Calleschros and Porinus were the four architects engaged by Pisistratus, who, like their professional brothers employed on the temples of Diana, Apollo and Ceres, were, according to Vitruvius, entitled to immortality for the grandeur of their works, but about whom there is no other information to be given.

This temple to Jupiter was not built upon the Acropolis at Athens, like that to the patron goddess of the city, Minerva, but upon a raised peribolos within the city below, and on the site of an earlier temple to the same god, erected in the time of Deucalion, but which had perished from the ravages of ages.

It was like most of the early Doric temples, of peripteral construction, or surrounded by columns on all four sides. Aristotle, who saw it before it was finished, was so much impressed by its size that he compared it to the Pyramids; and one of his scholars remarked that "though unfinished, it called forth astonishment, and when finished would be unexcelled."

Perseus, king of Macedonia, and Antiochus Epiphanes of Syria (176-164 B.C.) finally finished the cell and placed the Corinthian columns of the portico, employing for the purpose a Roman architect of great skill by the name of Cossutius. It was then, probably, that Livy made the remark "that among so many temples this is the only one worthy of a god."

Sylla, however, when he laid siege to Athens, some forty years later, robbed the temple most unmercifully, carrying away with him many of the columns to Rome. But his work of destruction was more than compensated for by his successor, Hadrian, two hundred years still

later, under the immediate direction of the celebrated Roman architect, Luigi Cannia. Hadrian, in his love of great architectural effects, was inspired to beautify the peribolos with a peristyle one hundred rods in length, and his architect contributed a new section to the temple itself, and added three grand vestibules.

The sacred enclosure, after Hadrian had finished it, which had a circumference of about twenty-three hundred feet, was ornamented by statues, contributed in great numbers by different cities. The length of the temple at this time, according to Stuart, was, upon the upper step, three hundred and fifty-four feet, and its breadth one hundred and seventy-one feet. The columns, which surrounded the cell, now all Corinthian, numbered one hundred and twenty-four, all of Pentelican marble, of which there are sixteen still standing. In the pronaos, or inner portico, Hadrian caused to be placed four statues of himself, two in Thracian and two in Egyptian marble, which were, perhaps, three more than a moderately modest man might have felt necessary.

Another gorgeous temple to the great Jupiter was begun about five years later than that at Athens by the architect Libon, an Eleian, in Olympia, which Lysias speaks of as "the fairest spot in Greece." In Olympia the spiritual and physical natures of the Grecian people

may be said to have combined in the perfection of development. Here the glories of the body, the capabilities of the finest muscular strength and athletic action, were exhibited in gymnasium and stadion, and here the religious spirit of the people arose to the fullest intensity, and as though doubly inspired by the action and strength of the perfect body, found expression in temple and sanctuary.

So great was the reward, so enthusiastic the reception accorded the champions in the athletic games of Olympia, that they call forth a protest from the sensitive Vitruvius, who seems to feel that the honors conferred upon them should have been reserved for the literary lights of the time. "The ancestors of the Greeks," he complains, "held the celebrated wrestlers who were victors in the Olympic, Pythian, Isthmian and Nemean games in such esteem that, decorated with the palm and crown, they were not only publicly thanked, but were also, in their triumphant return to their respective homes, borne to their cities and countries in four-horse chariots, and were allowed pensions for life from the public revenue. When I consider these circumstances, I cannot help thinking it strange that similar honors, or even greater, are not decreed to those authors who are of lasting service to mankind. Such certainly ought to

be the case; for the wrestler, by training, merely hardens his own body for the conflict; a writer, however, not only cultivates his own mind, but affords every one else the same opportunity, by laying down precepts for acquiring knowledge and exciting the talents of his reader."

So attractive was this spot on the banks of the Alpheus in Ellis, in natural charm, as well as in the purposes for which it was visited, that it is here, as nowhere else in Greece, with the possible exception of the Acropolis at Athens, the Grecian architects lavished their best skill and best illustrated their appreciation of the fact, that the effect of fine buildings is greatly augmented by grouping them gracefully together in one place, producing, as it were, an architectural picture. "Many objects," says Pausanias, "may a man see in Greece, and many things may he hear that are worthy of admiration, but above them all the doings at Eleusis and the sights at Olympia have somewhat in them of a soul divine."

The worship of Zeus was an old worship in Olympia, so that when Libon was entrusted with authority to erect a new temple to that deity, out of the spoils taken in subjugating the Pisans and other neighboring cities which had revolted from the Eleans, he gave free reign

to his art, and produced a Doric temple which rivalled that in Athens, though not as large.

Pausanias informs us that the Olympian temple was two hundred and thirty feet long, ninety-five feet wide and sixty-eight feet high; that it was surrounded by marble columns and covered with marble cut in the form of tiles. The front and rear pediments were adorned with sculpture, as well as the metopes of the frieze. The interior was of two orders of columns supporting lofty galleries, through which there was a passage to the throne of Jove "glittering with gold and gems."

It was this temple of Libon's that became, soon after its completion, the casket which held the *chef d'œuvre* of Phidias, the colossal statue of Jupiter carved in ivory and gold, of which Quintilian observes that it added a new religious feeling to Greece. The story is well known how Phidias, being asked by his nephew Panænus, a painter, who assisted him in the decoration of the temple, how he could have conceived that air of divinity which he had expressed in the face of this noble statue, replied that he had copied it from Homer's description of the god. Jupiter was presented naked to his waist, but draped from his girdle down. The significance of this was that the great Jove, knowing himself to be of heavenly origin, thought it best to conceal himself in

part only from man. He was also given a beard for the reason that the Greeks, clinging to the Oriental notion, believed that beards carried with them an air of majesty; an idea, by the way, which was not shared in by the Romans, who spoke with derision of their bearded forefathers, and permitted the wearing of beards only to those who were in disgrace, and to poor philosophers, who probably, like our poor modern poets, found a visit to the barber's an unnecessary and expensive luxury.

Rome during these early times, and before she had awakened to the cultivation of the arts at home, was prone to borrow from Greece the talent of which she was in need. It was about this time that we find the first record of such a call made by Rome upon her eastern neighbor for architects. The demand was answered by the two architectural sculptors Damophilus and Gorgasus, who were imported by the Dictator Posthumius to erect two temples in Rome, one to Castor and Pollux or, as some authorities assert, to Liber and Libera (Bacchus and Proserpine), which stood near the Forum and Temple of Vesta, and the other to Ceres, on the slope of the Aventine hill, near the Circus. These temples were vowed by Posthumius, in his battle with the Latins, 496 B.C., and were dedicated by Viscellinus some years later.

Before closing this chapter, in which the attempt is made to gather together some of the earlier architects of Greece, it may be as well to include within it a number of such artists who though not rising to the highest fame, or who were not connected with the most elegant buildings of their time, nevertheless had the good fortune to have their names preserved in history.

Pliny tells a rather amusing and interesting account of such an architect by the name of Bupalus, who probably flourished about the year 524 B.C. He is said to have come from a very old family of artists who exercised the art of the statuary from the beginning of the Olympiads; but as Pliny simply speaks of him as an architect and artist, but does not mention any building attributed to his skill, he becomes a subject for notice only in connection with the Iambic poet Hipponax, whom he used his art to torment. Pliny relates that Bupalus and his brother Athenis amused themselves by making caricatures of the satirical poet. Hipponax was undersized, thin and ugly, and probably, like the modern poet Pope, suffered his physical defects to give him a cynical view of life. The caricatures of the playful Bupalus and Athenis naturally affected unpleasantly his *amour propre,* and he employed the weapon at his command, his ironical pen, to strike back at his tormentors,

with the result that he gave them a good pen lashing in a satirical poem, in which he also chastised his Ionian brethren for what he considered their effeminate luxury. In the same poem, also, he did not spare his own parents, and it is said that he even had the temerity to ridicule the gods.

There is, of course, always some one to start the story that a woman is at the source of all the infirmities that any particularly conspicuous man suffers from, and there are those who claim that Bupalus did not originate the trouble, but that it started through the fact that the architect had a very beautiful daughter of whom Hipponax was greatly enamored. Like the earlier Iambic poet Archilochus, who got into a similar scrape, the girl's father refused to permit his daughter to marry a poor little withered poet, with the result that the poet's life was ever after embittered. How very bitter Hipponax became, especially against the ladies, is illustrated by a remark which is attributed to him: "There are," he said, "only two happy days in the life of a married man—that in which he receives his wife, and that in which he carries out her corpse."

After his death Leonidas of Tarentum, in an elegant epigram, warned travellers not to pass too near his tomb, lest they rouse the sleeping wasp. The grave of Hip-

ponax, by the way, instead of being covered with ivy and roses, like that of a mild poet, was planted with thorns and thistles.

Pausanias mentions several of these more obscure architects. Agnaptus was one, who built a porch in the Altis, or wall at Olympia, called afterward by the Eleans the "porch of Agnaptus," and Antiphilus, Pothæus and Megacles were three other waifs on our sea of oblivion. They were responsible for the Treasury of the Carthaginians also at Olympia. Pyrrhus, with his two sons, Lacrates and Hermon, built the Olympian Treasury of the Epidamnians. There were ten of these Treasuries, by the way, raised by different states, which were not only architecturally very beautiful, but which contained statues and other offerings of great value.

Strabo mentions an architect and sculptor by the name of Hermocreon, who designed a gigantic and beautiful altar at Parium on the Propontis in Asia Minor; and Eurycles, a Spartan architect, who built the baths at Corinth, and "adorned them with beautiful marbles," must not be overlooked, although he may have been of a much later date.

CHAPTER V.

THE ARCHITECTURAL EPOCH OF PERICLES.

THE age of Pericles was so distinctively an era in the advancement of the arts, especially architecture, not alone in the city where Athene shed her divine intelligence and tutelary influence with generous favor, but throughout all the Hellenic states, and has left so many models and criterions for the architects of all time to follow, that a few words in reference to Pericles himself and the sculptor Phidias, into whose hands he entrusted the direction of his public buildings and the adornment of Athens, may be admissible, before we consider the architectural geniuses who sprung forward to meet the great requirements of the time.

Pericles was a descendant of that noble and refined, if sometimes unfortunate, house of Alcmæonidæ, which did so much for the Delphic temple of Apollo, and a son of Xanthippus, the victor of Mycale, and Agariste, niece of Cleisthenes, founder of the later Athenian constitution. The date of his birth is not known, but that he

early evinced a leaning toward the fine arts and philosophy is recorded. Under Pythocleides he studied music, under Damon political science, under Zeno philosophy; but it remained for the erudite Anaxagoras to give the final burnish to his character and thought. He was therefore, both by birth and disposition, as well as cultivation, possessed of a mind singularly comprehensive in its grasp of the advantages which the arts of peace could contribute to the progress of his people, and naturally turned his attention to their exploitation and development, when he became dominant in the year 444 B.C. His rule of peace lasted but thirteen years, or until the breaking out of the Peloponnesian war, but was crowded with numerous artistic and architectural triumphs.

That he may have gone a step too far in the encouragement of pleasure and the peaceful virtues among a people of warlike antecedents and a future before them of foreordained defence and conquest, if not final defeat, may be a subject for speculation; but that he gave an impetus to literature and art, and by the fervent warmth of his patronage fostered the growth of genius in a way that had not been equalled before his time, and which has never been excelled since, is the principal reason, doubtless, for his immortality.

His head was abnormally long, a defect which the

artists of his time invariably corrected with a helmet when painting or sculpturing his portrait, and the contemporaneous comic poets and satirists as continually ridiculed in verse and jest. Speaking of his eloquence and powers of persuasion, Thucydides relates a pleasant story in respect to his dexterity in this regard. When Archidamus, king of the Lacedæmonians, asked Thucydides whether he or Pericles was the better wrestler, he replied: "When I have thrown him and given him a fair fall, he, by persisting that he had no fall, gets the better of me, and makes the bystanders, in spite of their own eyes, believe him." But in other respects his physique was well proportioned and his bearing noble and commanding. His manner was dignified and reserved, his eloquence strong, fearless and convincing, and his general appearance such as to inspire the people to compliment him with the name "Olympian Zeus," a character in which his portrait was also painted by his favorite, Phidias.

An English writer well says that the age of Pericles was "the milky way of great men," for it was certainly clouded to whiteness with intellectual stars. The names associated with this era are not only among the most celebrated in all Grecian history, but among the most renowned that have sprung forward in the history of

all the world. Poets, philosophers, dramatists, musicians, sculptors, painters, architects, not only arose in great numbers under his fostering encouragement, but to the highest eminence in their respective avocations. In fact, it seems as though the human plant that had long been growing, strengthening and broadening upon Hellenic soil had suddenly sprung into the fullest flower and enveloped itself in intellectual beauty.

The Athens which we so frequently see pictured in all her restored architectural grace and grandeur, the Athens which from her Acropolis of chiselled white so proudly surveys the Ægean sea and surrounding plains, is the Athens of Pericles, noblest of all cities in the pursuits of virtue, of beauty and contentment, and in the pure realization of that happiness which the practice of the arts alone can afford.

The budding of Athenian architectural magnificence may be said to have begun under Themistocles and Cimon, the immediate predecessors of Pericles, but not to have ripened and flowered in its perfection until his advent into power. Then it was that the task of building a city in every way worthy of the people who had proved their prowess before the Persian hosts in war, and who in peace could delight in the musical poems of

Homer, was pushed to a speedy realization with enthusiasm.

Nothing in all the biography of Pericles has contributed so greatly to the perpetuity of his fame as this attention which he gave to the development of the architectural magnificence of Athens. "That which gave most pleasure and ornament to the city of Athens," says Plutarch, "and the greatest admiration and even astonishment to all strangers, and that which now is Greece's only evidence that the power she boasts of and her ancient wealth are no romance or idle story, was his construction of the public and sacred buildings. The materials were stone, brass, ivory, gold, ebony and cypress-wood; the artisans that wrought and fashioned them were smiths and carpenters, moulders, founders and braziers, stone-cutters, dyers, goldsmiths, ivory-workers, painters, embroiderers, turners; those again that conveyed them to the town for use, merchants and mariners and ship-masters by sea; and by land, cart-wrights, cattle breeders, wagoners, rope-makers, flax-workers, shoemakers and leather-dressers, road-makers, miners. And every trade in the same nature, as a captain in an army has his particular company of soldiers under him, had its own hired company of journeymen and laborers belonging to it banded together as in array,

to be, as it were, the instrument and body for the performance of the service. Thus, to say all in a word, the occasions and services of these public works distributed plenty through every age and condition."

"Architecture," says Robert Adam, "in a particular manner depends upon the patronage of the great, as they alone are able to execute what the architect plans." This being so, the architects of his time had in Pericles a patron in every way worthy their best efforts. Indeed, so ambitious was he to grace the city of his nativity with all the beauties of architecture that his enemies found here a pretext for censure, and complained that he spent too much of the public treasure for such a purpose. He met the criticism, however, with the argument that those who pursued the arts of war should not be the only ones to receive support at the expense of the state, but that those who possessed the skill and industry of true artists and artisans were quite as much entitled to public encouragement and support as the soldier.

This answer for a time appeased the clamor of the opposition, which had been set up against what they would lead the people to believe was extravagance and wastefulness on the part of Pericles. But it soon broke out again. When finally it became no longer bearable, Pericles addressed his accusers and said: "If you think

that I have expended too much let the money be charged to my account, not yours, *only let the new edifices be inscribed with my name and not that of the people of Athens.*" It is to the credit of the Athenians that their pride was touched by the words of their ruler and their cupidity restrained. They at once replied that Pericles might spend as much of their money as he pleased, and they even went further, and insisted that he should not spare the public treasury in the least. Like all great men, Pericles was assailed in a variety of ways. When his enemies did not accomplish their purpose in bringing him to public disgrace by one method of assault, they tried another. We have seen how they failed in one instance; another was similar in accusing him, in complicity with Phidias, of appropriating to his own use the public treasure, donated to pay for the golden plates on the chryselephantine statues of the latter's creation. But this charge also not proving successful, they attacked his religious character, strange as it may appear, when it is remembered how deeply he was interested in erecting temples of pagan worship. But he survived the slanders of his time and continued his aims and purposes in life, content, doubtless, that posterity should judge him aright, as did the majority of the people of his own time. His last words are perhaps the best epitome of

his life's work: "No Athenian ever put on black through me."

Teleclides has put into verse the great surrender which the Athenian people appeared finally to make to Pericles of their rights in peace and war:

"The tribute of the cities, and, with them, the cities too,
To do with them as he pleases, and undo;
To build up, if he likes, stone walls around a town;
And, again, if so he likes, to pull them down;
Their treaties and alliances, power, empire, peace and war,
Their wealth and their success forevermore."

As already stated, in no branch of the arts did the age of Pericles make a deeper and more lasting impression than in that of architecture. Although the Doric order was employed many hundred years before his time, and the Ionic scarcely less many, yet the finest types of each and the examples of these orders which stand for their most perfect and artistic development are to be found in the Acropolis at Athens in the time of Pericles, the Parthenon serving as the criterion of one and the Erechtheum as the model of the other. That these orders should have been brought to such perfection and endowed with their crowning dignity and grace, must alone prove without further argument, if need be, that

the architectural talent and artistic sense of the age was incomparable.

The part which the great sculptor Phidias played in the art drama of his time has been already alluded to, but not sufficiently, perhaps, to exclude a further reference to him.

The comparison has often been made between Phidias and the talented revivalist of the fifteenth century, Michael Angelo, and a casual consideration of the two eminent artists would indicate that it was a proper one. They were both sculptors, both painters, both engravers (Phidias of gems), but they were not both architects, as is erroneously assumed. As to the respective degrees of talent which each manifested toward the branches of art which he professed, they also differed widely. In sculpture the school of Michael Angelo will not outlive that of Phidias, but in painting, especially in its application to mural decoration, the Greek must bow to the Italian. In architecture also Phidias possessed none of the technical knowledge and skill which in Michael Angelo enabled him to suspend the great dome of St. Peter's "as if in the air," and which was so important a factor in his long artistic career, manifested in other ways as well, and gaining for him perpetual applause. However, the two artists may be well compared, inas-

much that they both created epochs of their own; and both excelled in exhibiting a noble understanding as to the high and exalted possibilities of art that has never been equalled.

Phidias's comprehensive grasp of broad artistic effects had as much to do, probably, with gaining for him the favor of Pericles as his technical skill. Quintilian calls him the "Sculptor of the gods." He realized the greatness of large things and could calculate their power in influencing the imagination and understanding. He was once invited, together with his contemporary artist, Alcamenes, to design a statue of Minerva, destined to be placed upon a high column. When both statues were finished and exhibited, that made by Alcamenes was at once preferred on account of its elegance of finish, while that by Phidias was rejected as being rough and crude. Phidias, however, insisted that each should be shown from the high pinnacle upon which it might ultimately be placed. When this was done all the elegant graces of the statue of Alcamenes were lost to sight, as well also the apparent roughness of that by Phidias, which now took on the perfect proportions he had foreseen. This story will serve to illustrate the breadth of his artistic discernment.

Of all the artists of his time, Phidias was by far the

best gifted to have placed in his hands, by Pericles, the supervision of the public buildings of Athens, and to have entrusted to his discretion and judgment the planning, posing and arranging of the grand architectural *mise en scène,* which his patron had determined should be set there. If Phidias did not draw the actual plans of a building or other structure, his judgment could indicate its order, its location and such other characteristics it should possess to harmonize with the features with which it was to be associated. He could group the majestic masonry of his time in grand display, could beautify it with his own chisel, and could form and mould the complete architectural picture. If he was not the architect of the Parthenon, he at least enhanced its effect with the magnificence of his sculpturings and designs in the metopes of the frieze and the timpanums of the pediments, some of which are still to be seen among the "Elgin marbles" in the British Museum, of which Canova remarked they would alone compensate for a visit to England. It is not improbable, also, that he may have suggested the Caryatides of the Erechtheum, and proved to the Egyptians, from whom the architectural idea was borrowed, how far more beautifully and gracefully such figures could be carved in Athens than on the banks of the Nile.

There can be no doubt as to the value of statuary, which was the special province of Phidias, in enhancing the *ensemble* of Grecian architectural grouping, and particularly valuable was the colossal figure of Minerva Promachus in contributing to the grandiose effect of the Athenian Acropolis. This noble work of Phidias was seventy feet high and made entirely of bronze, said to have been taken from the Medes, who disembarked at Marathon. The colossal goddess stood exposed, and in a position where, in looking far away over the Ægean sea, she might be an inspiration to the returning Athenian mariner, and where, in glancing from her lofty eminence, "she seemed, by her attitude and her accoutrements, to promise protection to the city beneath her, and to bid defiance to her enemies."

Another architectural statue, if it may be called such, was that of the same goddess, in gold and ivory, which dominated the interior of the Parthenon. This work of Phidias, second only in beauty and size to the chryselephantine statue of Jupiter at Olympia, is said to have cost $465,000. The figure of Minerva was forty feet in height, and was presented standing in a tunic which reached to her feet. A casque covered her head, her right hand held a spear, and her left a figure of Victory. The exquisite workmanship of the carving on the

buckler resting at the feet of the deity came near involving Pericles and Phidias in another web of trouble, for it was asserted that the sculptor had introduced his own portrait and that of his patron among the combatants of a battle between the Athenians and Amazons, there portrayed. The captious objection was set up that such a liberty was insulting to Athene. Phidias, as related by some writers, was cast into prison for this act of impiety, and died there. Others claim, however, that this was not so, but that Phidias, before sentence could be passed, fled to Elis, where he at once entered upon the work of modelling the great statue of the Olympian Jupiter.

In respect to both statues, he was implicated with Pericles, as accused by his enemies, with pilfering the gold donated for their construction. These various accusations have led to considerable confusion in respect to much of his personal history and final end, and although it was proved by removing the gold plates and weighing them, that he was not guilty of the alleged crime, it is very probable that his death was as much due to disappointed hopes and mortification consequent upon the false charge as it was to any public executioner of the time.

CHAPTER VI.

THE ARCHITECTS OF THE AGE OF PERICLES.

IT is not the intention, in recalling some of the more conspicuous architects who flourished in the time of Pericles, to confine them to those only who were directly in his employ, but to group together all who became prominent factors in the architectural development of that age, both for some years before and after Pericles's reign of power.

To have carried forward the many important works which the great leader instituted, and which were advanced with a precision and rapidity remarkable for that or any other time, considering their size and importance, the skill and services of many architects were brought naturally into requisition. As a result we have the record of an unusually large number of such artists, and in respect to a few some little specific data relating to their lives. The architects, however, of many of the most important works are unknown.

If we approach Athens, like the Attic mariner of old,

through the Piræus, one of its sea gates, we are attracted at once to the beautiful architectural display which this seaport town, some five or six miles distant from the Grecian metropolis, presents. The entrance to the harbor was ornamented with two lions, and the harbor-basin was fringed with magnificent colonnades and porticos, which disguised the warehouses and bazaars. Within the town were numerous temples, two theatres and other buildings of artistic effect and merit.

The road to Athens lay between massive fortified walls having a width of fifteen feet at the top, and built to a height of sixty feet. They were known as the "Long Walls," and they enclosed a space about the Piræus, said by Thucydides to have been not less than one hundred and twenty-four stadia in circumference, or about fifteen miles.

It is only just to state that the walls which led from Athens to Piræus, as well as those which connected it with the other sea gates of Munychia and Phalerus, were originally planned and partly executed under Themistocles and Cimon. Themistocles intended to construct these walls to a height of one hundred and twenty feet; but Pericles deemed this entirely unnecessary, and cut the height in two, as we have seen. He also added a third wall between that running to the north of the Piræan

fortifications and that reaching to the Phalerum. Socrates speaks of having heard Pericles mention this wall to the people.

The architects for much of this massive mural work were Hippodamus and Callicrates, and because Pericles did not hurry them to the same extent that he hurried others engaged in perhaps less important, if more decorative, undertakings, Cratinus, the satirist, ridiculed the slowness of the work, while aiming a sly shaft of irony at Pericles's oratorical gifts:

"Stones upon stones the orator has pil'd
With swelling words, but words will build no walls."

Hippodamus was one of the genuises of his day, and has been called the "Wren of his age." Perhaps it would be more fitting to speak of Sir Christopher Wren as the Hippodamus of *his* time, inasmuch as the architectural achievements of the Greek were on a much more magnificent scale than those of the Englishman. Among some of the conspicuous works credited to him was the grand Athenian Agora, or Forum, which was made up of a rich assemblage of colonnades, temples, altars and statues, all taking his name as the Hippodamæa. But whether he is to be credited with being more especially a civil engineer than an architect may be inferred from his work at the Piræus and in laying out entire cities.

He was called the "Excentric Architect" doubtless because he mingled with the practice of his profession a desire to be considered as thoroughly versed in all the physical sciences, a personal affectation which caused him to be ranked among the sophists. It is claimed that it was against Hippodamus that Aristophanes aimed much of his wit.

Hippodamus was the son of Euryphon of Miletus, one of the most famous of the Greek physicians and among the first to have knowledge of the difference between the veins and arteries, and the uses of each. As to his early education and advantages we are not informed, he being referred to by early writers only in a professional way.

Besides his employment upon the "Long Walls," the Agora and other edifices, Pericles engaged his talents, as we have intimated, in laying out the port of Piræus, which he did, with broad streets and avenues intersecting each other at right angles across the city. This plan of street construction he also introduced in other cities of Greece and her colonies with which he had to do, especially at Thurü on the site of the ancient Sybaris, which he visited with the Athenian colonists, and later at Rhodes. This last-mentioned city, which in the age of Pericles was one of the most beautiful,

regular and prosperous of the times, was almost wholly the work of Hippodamus.

Callicrates, who assisted Hippodamus with the "Long Walls," was also an associate of Ictinus, perhaps the greatest architect of his time, in the building of the Parthenon on the Athenian Acropolis. The architect Callicrates should not be mistaken for the Lacedæmonian sculptor of the same name who achieved great celebrity for his skill in carving the most minute objects, and of whom it is related that he made ants and other insects in ivory which were so very small that their limbs could not be distinguished by the naked eye. This seems all the more remarkable when it is remembered that the ancients had no magnifying glasses.

A walk of five or six miles under the shadows of the tall walls of Hippodamus and Callicrates to view the greater architectural glories of the city of Athens in the time of Pericles will doubtless repay us. While this queen city of the ancient world is enrobed in many triumphs of the builder's art, we will probably pass them all by for the time being to examine more carefully the gems that stand forth from the Acropolis, glittering under the blue Grecian sky like white jewels in the proud city's coronet.

This magnificent citadel, protected by Pelasgian walls

and dedicated to the pagan deity Minerva, could be entered but upon one side, the western, where the massive gate or vestibule of the Propylæa occupied the centre. Fragments of this great gate still give evidence to the modern traveller of its former stately splendor.

"Here," says Bishop Wordsworth, "above all places at Athens, the mind of the traveller enjoys an exquisite pleasure. It seems as if this portal had been spared in order that our imagination might send through it, as through a triumphal arch, all the glories of Athenian antiquity in visible parade. It was this particular point in the localities of Athens which was most admired by the Athenians themselves; nor is this surprising; let us conceive such a restitution of this fabric as its surviving fragments will suggest—let us imagine it restored to its pristine beauty—let it rise once more in the full dignity of its youthful nature—let all its architectural decorations be fresh and perfect—let their mouldings be again brilliant with their glowing tints of red and blue—let the coffers of its soffits be again spangled with stars, and the marble antæ be fringed over as they were once with delicate embroidery of ivy-leaf . . . and then let the bronze valves of these five gates of the Propylæa be suddenly flung open and all the splendors of the interior of the Acropolis burst upon the view."

If this imaginative restoration of the sublimities of the Propylæa is not sufficient to excite some interest in the building and the slave-born architect who was its creator, let the glowing words of Symonds be added, which refer not only to the grand vestibule itself, but to the Panathenaic processions which were wont to pass its gates.

"Musing thus upon the staircase of the Propylæa we may say with truth that all our modern art is but as child's play to that of the Greeks. Very soul-subduing is the gloom of a cathedral like the Milanese Duomo when the incense rises in blue clouds athwart the bands of sunlight falling from the dome, and the crying of choirs upborne on the wings of organ music fills the whole vast space with a mystery of melody. Yet such ceremonial pomps as this are but as dreams and shapes of visions when compared with the clearly defined splendors of a Greek procession through marble peristyles in open air beneath the sun and sky. That spectacle combined the harmonies of perfect human forms in movement with the divine shapes of statues, the radiance of carefully selected vestments with hues inwrought upon pure marble. The rhythms and melodies of the Doric mood were sympathetic to the proportions of the Doric colonnades. The grove of pillars through

which the pageant passed grew from the living rocks into shapes of beauty, fulfilling by the inbreathed spirit of man nature's blind yearning after absolute completion. The sun itself, not thwarted by artificial gloom or tricked with alien colors of stained glass, was made to minister in all his strength to a pomp the pride of which was a display of form in manifold magnificence. The ritual of the Greeks was the ritual of a race at one with nature, glorying in its affiliation to the mighty mother of all life, and striving to add by human art the coping stone and final touch to her achievement."

The Propylæa stretched in all about one hundred and seventy feet across the western side of the citadel, and was entirely built of Pentelic marble. In the centre was a portico sixty feet broad of six fluted Doric columns, each column thirty feet in height, and all supporting a noble pediment. From this portico projected on either side a wing, entered through three Ionic columns. Six Ionic columns assisted in supporting the roof of the vestibule. The marble beams of this roof were from seventeen to twenty-two feet in length and correspondingly solid. The ceiling was richly carved and ornamented. Immediately in the rear of the Ionic columns and at the end facing the Acropolis stood the terminal

wall, with its five bronze gates, the centre one, which was the largest, being sufficiently broad to allow the passage of a chariot or other such vehicle. Beyond this wall and its gates was the posticum, adding eighteen feet to the depth of forty-three feet which the building otherwise possessed. The temple of the "Wingless Victory," and the "Painted Chamber," containing the finest works of the painter Polygnotus, as they have been named, formed the wings, which presented unbroken walls to the front, relieved only by the four Ionic columns that supported the graceful entablature and pediment of the temple of Nikê Apteros on the right.

As the building was begun in the year 437 B.C., and was entirely completed within a period of five years, and was one of the most imposing structures of its day, Pausanias is led to reflect that, "in felicity of execution and in boldness and originality of design, it rivalled the Parthenon." Lubke's comment on the structure is: "Thus in this building the idea of fortress-like defence, as well as festive welcome, was equally expressed. Especially admirable, however, was the rich ceiling of the great three-naved court, both on account of the bold span of its beams and the magnificent decoration of the spaces between them (the coffers), which were brilliant with

gold and colors.* The Ionic form of the columns in the interior also corresponded with this festive, cheerful character; while the two rows of columns on the outside, together with the rest of the exterior of the building, exhibited the seriousness and dignity of the Doric style."

Thus has much been quoted in description and eulogy of this noble piece of architecture; would that as much might be quoted in respect to the talents and career of its gifted designer, but of him there is only the shadow of comment, from which it is possible to weave but the faintest fabric of certainty concerning his life.

His name was Mnesicles, and we are told that he was a slave born in the household of Pericles. That he should have been chosen to create so important an architectural work speaks for the privilege which the humblest born might hope to attain in rising to positions of trust and prominence in the days of that great leader. Mnesicles early manifested an aptitude for architecture, and was permitted by his illustrious patron and owner to exercise his talent in the erection of buildings of inferior consequence before being entrusted with more ambitious works. The Propylæa was not the only

* The decoration referred to was the work of the distinguished painter Protogenes.

THE FALL OF MNESICLES FROM THE PROPYLÆA.

work of magnitude upon which he was engaged, nor was it the most beautiful, in the judgment of some critics, although the most important, for he was the architect as well of the graceful Doric temple of Theseus, which has always been regarded as one of the finest architectural conceptions the ancient city of Athens possessed.

An incident in his life which awakened the affectionate interest of Pericles and the solicitude of the goddess Athene, whom he was serving so well, is told by Plutarch and other early biographers. It is in effect that while inspecting the almost completed work of the Propylæa he fell from the summit of the pediment and was most severely injured. He was taken at once to the house of Pericles, where he received the personal attention of the great ruler. It was while he lay at death's door that it is said Minerva appeared to Pericles in a dream, and told him to administer to Mnesicles a medicine distilled from the wall-plant pellitory. This was done, and the life of the architect was spared. The only other fact associated with the life of Mnesicles which has been preserved to us is one mentioned by Pliny to the effect that the sculptor Stipax of Cyprus made a statue of the architect which became very celebrated in its time, and which yas called *Splanchnoptes*. It was given this name because it represented a person roasting

the entrails of the victim at a sacrifice, at the same time blowing the fire with his breath. There is nothing suggestive of the architect in question or his profession, but it is supposed to have been a statue of Mnesicles, from the fact that Pliny speaks of the subject as having been a slave of Pericles, who was cured of the wounds received in a fall from the Propylæa by an herb which Minerva had suggested should be given as a medicine. It is unfortunate that the statue has not survived to give us some idea of the features of at least one of the great architects of antiquity. Some recent discoveries on the Acropolis have, however, brought forth fragments which are supposed to have been parts of the base.

If there is any one of the Greek architects of the time of Pericles who can be said to have secured for himself a degree of popular notoriety throughout subsequent ages it is the accomplished Ictinus, the chief architect of the Parthenon and the designer of at least two other conspicuously beautiful buildings of which we know—namely, the temple of Apollo Epicurus, near Phigalia in Arcadia, and the temple of Ceres and Proserpine at Eleusis. It is, no doubt, due, however, to his connection with the Parthenon that his fame has so long endured.

As already stated, Callicrates assisted in the building

of the Parthenon, and Phidias contributed the designs for the relief carvings in the pediments and metopes, executing much of the work with his own hands. Although Vitruvius says that "both Ictinus and Callicrates exerted all their powers to make this temple worthy of the goddess who presided over the arts," it is not likely that Callicrates's share in the work was equal to that of Ictinus, but was confined more to the heavy masonry, and in offering to Ictinus such advice as he might seek in giving to the building the greatest substantiality and permanency.

The Parthenon, which, among the several masterpieces of the Acropolis, must be acknowledged the greatest, stood upon a rocky elevation in the citadel, which so far elevated the structure as to bring the pavement of the peristyle upon a level with the capitals of the columns of the eastern portico of the Propylæa. This was the same site which had been occupied formerly by an earlier temple to Minerva, known among the Athenians as the Hecatompedon on account of its proportions.

The Parthenon of Ictinus is said to have cost one thousand talents, or what would be equal to about $1,100,000 of our money. It was begun the year 422 B.C., and completed at the expiration of sixteen years.

It conformed to the usual shape of the Greek temples, being rectangular and peripteral. The length from east to west was two hundred and twenty-seven feet and seven inches, the width a little over one hundred and one feet. The Doric order was employed for the exterior, the columns which surrounded the cell on all sides being thirty-four feet in height, with a diameter of six feet at the base. There were forty-six of these columns, springing directly from the stylobate or steps, all fluted with twenty channels, and each carrying its share of a very beautiful entablature. The gables or pediments at each end of the temple were of flat pitch. The total height of the building from the steps to the top of the gables was sixty-four feet. White marble from Mount Pentelicum, "wrought," as Mr. Kinnaird expresses it, "with the exquisite finish of a cameo," was the material employed for the entire structure, with the exception of the supporting timbers of the roof, which were wood covered with marble tiles.

The interior, to quote Mr. Kinnaird again, "enshrined the chryselephantine colossus with all its gorgeous adjuncts, and comprised sculptural decoration alone for one edifice exceeding in quantity that of all recent national monuments; consisting of a range of eleven hundred feet of sculpture and containing, on cal-

culation, upward of six hundred figures, a portion of which were colossal, enriched by painting and probably golden ornaments. Here has been really verified the prediction of Pericles that, when the edifices of rival states would be mouldering in oblivion, the splendor of his city would be still paramount and triumphant." In respect to the richness of its interior treasures, very much the same idea is expressed by Bishop Wordsworth, who says, in the course of his description of the building: "It would, therefore, be a very erroneous idea to regard this temple which we are describing merely as the best school of architecture in the world. It was also the noblest school of sculpture and the richest gallery of painting."

The cleverness of the architects in insuring to the Parthenon, after its completion, the appearance of absolute harmony of proportion in all its outward lines, is one of their best claims to that celebrity which they have justly earned. As it goes so far toward illustrating their great professional skill, the reader may be interested in reading the language used by Professor Roger Smith of London in explaining the measures adopted by Ictinus and possibly Callicrates also, to correct the optical defects which the Parthenon might otherwise have possessed when completed.

"The delicacy and subtlety of these [optical illusions] are extreme, but there can be no manner of doubt that they existed. The best known correction is the diminution in diameter or taper, and the *entasis* or convex curve of the tapered outline of the shaft of the column. Without the taper, which is perceptible enough in the order of this building, and much more marked in the order of earlier buildings, the columns would look top-heavy; but the *entasis* is an additional optical correction to prevent their outline from appearing hollowed, which it would have done had there been no curve. The columns of the Parthenon have shafts that are over thirty-four feet high, and diminish from a diameter of 6.15 feet at the bottom to 4.81 feet at the top. The outline between these points is convex, but so slightly so that the curve departs at the point of greatest curvature not more than three-quarters of an inch from the straight line joining the top and bottom. This is, however, just sufficient to correct the tendency to look hollow in the middle.

"A second correction is intended to overcome the apparent tendency of a building to spread outward toward the top. This is met by inclining the columns slightly inward. So slight, however, is the inclination, that were the axes of two columns on opposite sides of the Parthenon continued upward till they met, the meeting

point would be 1952 yards, or, in other words, more than one mile from the ground.

"Another optical correction is applied to the horizontal lines. In order to overcome a tendency which exists in all long lines to seem as though they drop in the middle, the lines of the architrave of the top step and of other horizontal features of the building are all slightly curved. The difference between the outline of the top step of the Parthenon and a straight line joining its two ends is at the greatest only just two inches."

Still another correction which Professor Smith alludes to, in respect to the vertical proportions of the building, he does not discuss more than to say: "The small additions, amounting in the entire length of the order to less than five inches, were made to the heights of the various members of the order, with a view to secure that from one definite point of view the effect of foreshortening should be exactly compensated, and so the building should appear to the spectator to be perfectly proportioned."

The Parthenon was not, as is popularly supposed, a temple for the worship of Minerva. The sanctuary for that particular purpose was in the Erechtheum, a triple temple, located upon the Acropolis not very far distant from the Parthenon, and having wings dedicated re-

spectively to Minerva Polias, to Erechtheus or Neptune, wherein was a well of salt water, and to the Nymph Pandrosus, daughter of Cecrops. The Parthenon, however, served as a national treasury and repository for the valuable offerings to the goddess, as well as "a central point for the Panathenaic festival," where prizes might be distributed to the victorious competitors. Indeed, the decorations of Phidias would tend to corroborate this inference, as the sculptured low relief of the frieze represented the Panathenaic procession. The rich relief carvings in the tympanums of the front and rear pediments of the building, also by Phidias, the designs of which may be found described in almost any work on Grecian art, have been reproduced in some of the vignettes of this book.

In alluding to the Erechtheum, which, like the Parthenon and the Propylæa, still presents shapely and beautiful ruins to grace the Acropolis, attract the tourist and lend to the lover of art the best criterion of the ideal age of Grecian architecture, we must mourn the fact that the architect who designed this magnificent example of the Ionic order is not known, and it is not likely that he ever will be. The building was not finished at the time of the death of Pericles. Because of an inscription found in the Acropolis, and now in the

British Museum, containing the particulars of a minute professional survey of the unfinished parts, made by an Athenian architect named Philocles, in the year 336 B.C., this architect has been given by some the credit of having been the author of the entire structure; but that he could not have been is clearly proven by the known fact that much of the temple was constructed, as we have stated, in the time of Pericles, or about one hundred years earlier. Nothing further, by the way, is known of Philocles than is here given.

About two thousand years had passed without that great leveller Time or the corroding influences of the elements marring to any very serious extent the beauty and completeness of the Parthenon, during which period it had suffered two changes most antagonistic to its original purpose, having been transformed at one time into a Christian church and at another into a Turkish mosque. In respect to the first transformation, it is well to note that the significance of its name was not wholly lost in the change. Parthenon means Virgin, and the Christians called the church into which they turned it the Church of the Blessed Virgin. It was seen entire by Spon and Wheeler in 1676. But when the Venetians, in their war with the Turks, eleven years later, besieged the citadel, they threw a bomb upon the

roof of the noble structure, which, passing through it, ignited the powder which had been stored in the building by the Turks. The result was an explosion which divided and reduced the temple to its present condition, save for further depredations which seem hardly creditable. The iconoclastic Turks found this pride of Pericles most useful as a quarry upon which to draw for much of the material used in their own buildings, and it is to be regretted also that Lord Elgin should have found it necessary to enrich a distant museum in London with many of its most beautiful carvings, adding further desecration to "what Goth and Turk and Time had spared." Vitruvius informs us that Ictinus, in collaboration with another architect, not otherwise mentioned, wrote a book upon the Parthenon, his greatest masterpiece.

After searching the world over for her dear, lost daughter, the beautiful Proserpine, who had been spirited away to the realm of Pluto, Ceres finally gave up the quest and mournfully settled down at Eleusis, a city in fertile Bœotia, about fourteen miles from Athens. Here was erected in her honor and in memory of Proserpine an Ionic temple by the people for whom she became sponsor. The Persians, during their invasion of Attica, burned the temple, but Pericles caused it to be rebuilt.

and selected Ictinus as the architect. He erected a handsomer structure in the Doric style, which, it is said, was without exposed columns.

Whether Ictinus lived long enough to complete the temple to Ceres and Proserpine or not, or was called away for other purposes, is not known, but it appears that other architects were associated with its design and erection, both before as well as after his connection with it. Corœbus is mentioned also as an architect, in the employ of Pericles, who began the work on the mystic cell, but that his sudden death resulted in the substitution of Ictinus. It is more probable, however, that Ictinus had previously furnished the design of the building and that Corœbus had been merely acting under his supervision. Following Ictinus was another Athenian architect appointed by Pericles, and the designer of the demos of Cholargos. He is said to have built the pediment of the temple with the timpanum open, according to an ancient fashion, in order to light the cell, which, if Strabo is to be believed, was capable of accommodating thirty thousand persons.

In the time of Demetrius Phalereus, the immediate successor of Alexander, Philo, or Philon, as his name is sometimes written, a very eminent architect, also of Athens, was engaged to add a portico of twelve Doric

columns to this temple of Ceres. That Metagenes of Xypete, and son of Ctesiphon, who has already been discussed in our allusion to the temple of Diana at Ephesus, should be mentioned as the architect who completed the entablature and an upper row of columns to this Eleusian temple, is probably a mistake. The time of Metagenes was, as we have seen, much earlier (about 560 B.C.), and while he might have been engaged upon the first temple to Ceres at Eleusis, it is quite impossible for him to have been employed by Pericles in the building of that with which Ictinus had to do.

When Alaric, the German, made his angry invasion into Greece in 396 B.C., because refused command of the armies of the Eastern empire, he destroyed very many works of Greek art, and this temple among them was one of the unfortunates that assisted to satiate his wrath.

The third important work with which Ictinus is reported to have been connected was the Doric temple to Apollo in the village of Bassæ, near Cotylion, in Arcadia, which was known as the temple to Apollo Epicurus (the Preserver). Pausanias speaks of this as being next to that at Tagea, the finest temple in the Peloponnesus "from the beauty of its stone and the symmetry of its proportions." This temple is still a

beautiful ruin, thirty-four of the original thirty-eight columns of the peristyle standing. The structure, which in the interior possessed two rows of columns in the Ionic order, was originally admirably planned for sculptural decoration and statuary and held many fine specimens of the handiwork of Phidias and his school. Some of the carvings of the frieze and other parts of the building, which are to be seen in the British Museum, are spoken of by Lubke as the boldest and most animated compositions among all that is preserved to us of the productions of Greek art.

On the southeast slope of the Acropolis Pericles caused to be erected a building which departed broadly from the prevailing rectangular construction of the time. In was oval on plan, Doric in order, and its portico was enclosed by thirty-two columns. The most original feature of the building, however, was the roof, which was constructed in the shape of a cone and was supported by rafters formed of the masts of the ships captured in the Persian wars. From just above the cornice of the drum there projected around the entire roof a row of windows which may possibly be credited with being the archetypes of our modern dormer windows. This building was called the Odeum, or, as it is now termed, the Odeon, and was devoted to music.

Cratinus, the comic poet, who had levelled his satire at Pericles when building the "Long Walls," found in the roof of the Odeon, the idea for the cone shape of which, by the way, it is claimed the architects borrowed from the pavilion of the King of Persia, another mark for his shafts of ridicule. He sings:

> "As Jove, an onion on his head he wears;
> As Pericles, a whole orchestra bears;
> Afraid of broils and banishments no more,
> He tunes the shell he trembled at before."

The allusion to an onion by Cratinus is explained when it is remembered that on account of the peculiar, long shape of his head the poets of Athens called Pericles *Schinocephalos,* or squill-head, from *schinos,* a squill, or sea-onion. Another version of Cratinus's satire is given thus:

> "So, we see here,
> Jupiter Long-pate Pericles appear,
> Since ostracism time he's laid aside his head,
> And wears the new Odeum in its stead."

Music received a considerable share of attention in the education of the Greeks, and such was the influence which it is said to have possessed over the physical as well as the mental nature of the people, that it was credited with being an antidote for many of the infirmities of the body as well as the mind. The Odeon was

therefore an institution of considerable importance in Athens. Here Pericles conducted in person the musical contests between the Choruses which the wealthy citizens of Athens instituted, and awarded to the winners the tripod-trophies, which as marks of special honor they were permitted to place upon their monuments. A street in Athens was devoted almost entirely to these choragic monuments, many of which were architecturally most beautiful.

The architect of the Odeon of Pericles is not known, but after its destruction by Aristion in the Mithridatic war, it was rebuilt by Ariobarzanes II, Philopator, king of Cappadocia, in the original form, who employed for the purpose the brother Roman architects, Caius and Marius Stallius, together with a third architect by the name of Menalippus, who recorded their connection with the building upon the base of a statue which they erected in honor of their patron Ariobarzanes. It is said that on certain days this later Odeon was used as a grain market.

If in the Parthenon on the Acropolis the acme of Doric magnificence was reached by Ictinus and Callicrates, there was another temple located below the Acropolis, which by many is ranked as the peer of the Parthenon, in its perfection of Doric symmetry and

grace. This was the building to which allusion has already been made as another example of the genius and skill of Mnesicles, the slave-architect of the Propylæa. It was dedicated to the founder of Athens, the adventurous Theseus, and stood not only as a temple in his honor, but as a mausoleum for his ashes.

Wordsworth, whose words of praise for the Propylæa have been quoted, is also enthusiastic in his admiration of this second example of the skill of the talented Mnesicles: "Such is the integrity of its structure and the distinctness of its details that it requires no description beyond that which a few glances might supply. Its beauty defies all; its solid yet graceful form is, indeed, admirable; and the loveliness of its coloring is such that from the rich, mellow hue which the marble has now assumed it looks as if it had been quarried not from the bed of a rocky mountain, but from the golden light of an Athenian sunset."

Although the temple of Theseus was one of the more modest Athenian temples in point of size, it has always ranked as one of the most perfect of the Attic-Doric order, and stands to-day as one of the least dilapidated among all that have existed of the beautiful edifices of ancient Greece. Indeed, as it was supposed to have been begun before the Parthenon, or in the time of Cimon, it

is claimed by some writers that Ictinus took it for his model, although the Parthenon was about twice as large.

The Theseum was surrounded by columns, six at the front and rear and thirteen on either flank. It was forty-five feet wide by one hundred and four feet long. The building material was Pentelican marble, which in the course of the centuries has taken on the soft yellowish tinge which Bishop Wordsworth refers to. Ornamental sculpturing was more sparingly employed than upon the Parthenon or some of the other structures of the time, but such as was used was so judiciously handled as to give the very noblest results. The sculpturing in the metopes of the frieze and on the pronaos was the work of Phidias.

It was built after the battle of Marathon, and, it would seem, after an awakening on the part of the Athenians to that high sense of obligation toward their early hero, Theseus, which had slumbered for centuries. It was due to the Delphic Oracle that his remains were brought back to Athens from their long banishment in the island of Scyros, and given honorable burial, the son of Miltiades being selected to execute the Oracle's decree. The occasion was made one of festivity and rejoicing, and the entombment in the beautiful new temple one of sacrifice and solemnity.

In closing this brief reference to the Theseum, the graceful lines from Haygarth's Greece, which so beautifully applaud it, may well be quoted:

"Here let us pause, e'en at the vestibule
Of Theseus's fane—with what stern majesty
It rears its pond'rous and eternal strength,
Still perfect, still unchang'd, as on the day
When the assembled throng of multitudes
With shouts proclaim'd th' accomplish'd work and fell
Prostrate upon their faces to adore
Its marble splendor. How the golden gleam
Of noonday floats upon its graceful forms,
Tinging each grooved shaft, and storied frieze
And Doric triglyph! How the rays amidst
The op'ning columns glanc'd from point to point
Stream down the gloom of the long portico;
Where, link'd in moving mazes youths and maids
Lead the light dance, as erst in joyous hour
Of festival! How the broad pediment,
Embrown'd with shadow frowns above and spreads
Solemnity and reverential awe!
Proud monument of old magnificence!
Still thou survivest, nor has envious time
Impair'd thy beauty, save that it has spread
A deeper tint, and dimm'd the polished glare
Of thy refulgent whiteness. Let mine eyes
Feast on thy form, and find at every glance
Themes for imagination, and for thought;
Empires have fallen, yet art thou unchang'd;
And destiny, whose tide engulphs proud man
Has roll'd his harmless billows at thy base."

In the brilliant galaxy of great architects and sculptors of this age, none shines more deservedly conspicuous by reason of true merit and noble purpose than Polycletus of Argos, who is remembered more as a statuary than by reason of his achievements in architecture. He exercised his art between the years 452 and 412 B.C., and, like his distinguished contemporaries, Myron and Phidias, was a pupil of the Argive sculptor, Agelades. His celebrity has been compared to that of his most famous brother pupil, Phidias, for the reason that while Phidias gave the ideal standard in the portrayal of deities, Polycletus created for all ages the perfect canon of the human form in art. This he expressed in the figure of a youth holding in his hand a spear, which was called the Doryphorus. In this figure the sculptor laid down the rules of universal application with regard to the proportions of the human body in its mean standard of height, breadth of chest, length of limbs and so on. Socrates, according to Xenophon, went so far as to place Polycletus on a level as a statuary, with Homer, Sophocles and Xeuxis in their respective arts.

A similar anecdote to that told of Phidias, when he listened to the criticisms of the public upon his colossal statue of the Olympian Zeus, is also related of Polycletus. He is said to have made two statues, one of

which he perfected according to his own ideals, and the other he exhibited to the public and altered according to the suggestions volunteered. In due time he exhibited both publicly side by side. The one he had himself made was universally admired, while that which he had changed to suit the popular fancy was condemned. "You yourself," he exclaimed, "made the statue you abuse, I, the one you admire."

One of his most celebrated works was the chryselephantine statue of Hera, executed in his old age to rival the Athene and Zeus by Phidias. Strabo considered that this statue equalled in beauty those of Phidias, though it was surpassed by them in costliness and size. In the respect that Polycletus followed the Homeric description of Hera, and presented the goddess clothed from her waist down, he may be said to have followed the precedent of Phidias; in other respects, however, he drew upon his own fancy. Juno was seated upon a golden throne; her head was crowned with a garland on which were worked the Graces and the Hours; in one hand she held the symbolical pomegranate and in the other a sceptre surmounted by a cuckoo, a bird sacred to Hera on account of having herself been changed into that form by Zeus.

As an architect Polycletus will be found as the

designer of the theatre at Epidaurus, where was also located the beautiful temple dedicated to Æsculapius, and which Pausanias pronounced to be superior in symmetry and elegance to every other in Greece and Rome. It was capable of accommodating twelve thousand spectators, and its ruins, as well as those of the white marble circular Tholus, by the same artist, are still to be seen in an unusual condition of preservation.

Among the other architects who have been variously mentioned as having pursued their profession toward the close of this century, but who can hardly take equal rank with those already alluded to, may be mentioned Eupolinus, an Argive artist, who rebuilt the great Heræum at Mycenæ after its destruction by fire in the year 423 B.C., the entablature of which was ornamented with sculptures representing the wars of the gods and giants and the Trojan wars; Cleœtas, who was one of the assistant architects under Phidias, and whose chief claim to distinction is based upon his construction of the starting place in the Olympian Stadium, and Demoeopus Myrilla, who built the theatre at Syracuse. Vitruvius also speaks of an architect and author of about this time—namely, Silenus—who wrote on the Doric order.

It is difficult to close this chapter, in which but very superficial reference has been made to the architectural

lights of the golden age of art in Greece, without glancing back at the magnificent city of Athens, the grand product of much of their creative skill, with feelings of regret that with all her numerous and noble monuments, dedicated to gods and men, there is not one that bears the imprint of its creator. We see in this glance forest-like colonnades of glittering white columns; we see the House of the Five Hundred Senators, the Tholus, the Hall of Hermæ, the Agora, the Pnyx, "where the Athenian orator spoke from a block of bare stone;" the Stoic Hall, in which philosophy was taught; the Prytaneum, where the loved laws of Solon were preserved; the Lyceum, with its hundred columns from Lydia; the Theatre of Bacchus and the Mausoleum of Tolus. We see temples innumerable, the grandest of all those to Jupiter and Theseus; but others of fascinating merit, those of Ceres and of Cybele and of Mars, and of Vulcan, of Venus, of Æacus, of the Dioscuri, of Hercules, of Diana Agrotera, of Bacchus Lunnæus, of Æsculapius, of Eumenides, and that to Glory, erected with the booty from the glorious field of Marathon, wherein stood the Venus of Phidias; and we see the Acropolis towering above all, lending other magnificent architectural triumphs to the ensemble; and although we see slabs among them "inscribed with the records of Athenian

history, with civil contracts and articles of peace, with memorials of honors awarded to patriotic citizens or munificent strangers," we find no monument, whether in the time of Pericles or later, inscribed with the name of Ictinus, or Hippodamus, or Callicrates, or the poor slave, Mnesicles, who was saved by Minerva to be forgotten by man.

CHAPTER VII.

LATER GREEK ARCHITECTS.

THE first architect as well as artist of decided merit who arose to historic distinction at the beginning of the later Attic school, or that which followed immediately upon the school of Phidias, and one of the first to treat the Corinthian idea, then flowering into favor with originality and artistic skill, was the deserving and accomplished Scopas. Reference has already been made to this artist in connection with the temple of Diana at Ephesus, for which, it is said, he furnished the most beautiful of all the numerous columns with which that temple was enriched. This statement is made without prejudice to the great Praxiteles, who was contemporaneous with Scopas, and who excelled him as a statuary, if he did not compete with him as an architect.

A mistake of Pliny, which assigned Scopas to an earlier age, has finally been corrected, and it has been settled that the period when he exercised his art was

between the years 395 and 350 B.C. Scopas was a native of Paros, a subject island of Athens, and sprung from a family which for several generations before his advent into the world had practised the plastic arts. His descendants also walked in the same artistic paths of life for many generations. Like Polycletus, with whom he is most favorably compared, the architectural side of his career was greatly eclipsed by that which displayed his genius as a sculptor.

His statues were numerous, and fortunately many of them still exist scattered in various European museums and galleries. Among such of his works considered the most interesting is the well-known series of figures representing the destruction of the sons and daughters of Niobe. In the time of Pliny these statues stood in the temple of Apollo Socianus at Rome, and it was then a question whether they were the works of Scopas or Praxiteles. In fact, many of the former's finest efforts have been attributed to the latter artist. Of this group Schlegel says: "In the group of Niobe there is the most perfect expression of terror and pity. The upturned looks of the mother, and mouth half open in supplication, seem to accuse the invisible wrath of Heaven. The daughter clinging in the agonies of death to the bosom of her mother, in her infantile inno-

cence can have no other fear than for herself; the innate impulse of self-preservation was never represented in a manner more tender or affecting. Can there on the other hand be exhibited to the senses a more beautiful image of self-devoting, heroic magnanimity than Niobe, as she bends her body forward that, if possible, she may alone received the destructive bolt? Pride and repugnance are melted down in the most ardent maternal love. The more than earthly dignity of the features is the less disfigured by pain, as from the quick repetition of the shocks she appears, as in the fable, to have become insensible and motionless. Before this figure, twice transformed into stone, and yet so inimitably animated —before this line of demarcation of all human suffering the most callous beholder is dissolved in tears."

Another highly esteemed work of Scopas, which Pliny says stood in the shrine of Cneius Domitius in the Flaminian circus in Rome, represented Achilles conducted to the island of Leuce by the divinities of the sea. It consisted of figures of Neptune, Thetis and Achilles surrounded by Nereids sitting on dolphins and other large fish, and attended by Tritons and sea monsters. In the opinion of Pliny, these figures alone would have been sufficient to have immortalized the artist, even if they had cost the labor of his entire life.

His statues of Venus, are, after all, perhaps the most remarkable of his works in sculpture. One of these statues, if not the original, is supposed to have been the prototype of one of the most celebrated and beautiful portrayals of that charming deity in the world to-day. Another to which Pliny gives particular prominence was that in which the goddess is presented nude and which was found in the temple of Brutus Callaicus in Rome. This statue, he adds, "would have conferred renown upon any other city, but at Rome the immense number of works of art and the bustle of daily life in a great city distracted the attention of men." It is probably this work of art, which is thought by some to have been superior to that by Praxiteles, which, with some modifications, is credited with being the model after which Cleomenes fashioned the celebrated Venus de Medicis. Pausanias and Pliny mention also other portrayals of Venus by Scopas, but it is left to Waagen and some other critics to ascribe the celebrated statue of Aphrodite, in the Louvre in Paris, and known as the Venus de Milo, to this great sculptor and architect.

It is foreign to the purpose, however, to devote too much space to this side of the art life of Scopas, but in treating of his connection with the magnificent mausoleum which Artemesia erected at Halicarnassus, to her

husband, Mausolus, king of Caria, it will be argued doubtless that the work of this artist on that famous mortuary monument, which ranked as one of the seven wonders of the world, was more in the line of a decorative sculptor than of an architect.

In this undertaking Scopas was associated with three other architectural sculptors—namely, Bryaxis, Timotheus and Leocarus—all of whom were Athenians. Each took as his special work the decoration of one side of the building, Scopas choosing the east or principal façade. The north and south sides had a width of about sixty-three feet; the east and west were not quite so wide.

Before outlining further the principal characteristics of the building, it is only fair to say that the professional architects to whom is due the credit for the plan of the structure were Phileus, an Ionian whose name Vitruvius spells in a variety of ways, and Satyrus, whose native city is not given, but who, according to the same authority, wrote a description of the mausoleum. Phileus was also an author on architecture, having written a volume on the Ionic temple of Athene Polias at Priene, of which he was the designer, and which was one of the most renowned buildings in Asia Minor, and a treatise on the mausoleum, which was also located in that part of the globe. As for Satyrus, whatever may

have been the other public buildings of which he was the architect, there is no record.

The mausoleum had a total height of one hundred and forty feet, and in general appearance combined orientalism in tomb-structure with the perfections of Grecian architectural grace and elegance. The tomb was contained within a rectangular substructure. Above was an Ionic peristyle temple with nine columns on each side and eleven at the ends. The frieze was elaborately carved and decorated, and the roof, which was pyramidal in form, gave the oriental cast to the entire building. At the apex of the roof was a colossal marble quadriga, in which a statue of the deceased king Mausolus appeared. It is said that in the sculptures and carvings of the different sides the respective artists strove to rival each other, and that although queen Artemesia died before the tomb was finished the four artists were so interested and absorbed in their work that they determined to complete it at their own risk.

Up to the twelfth century after the Christian era this grand tomb stood in a fairly good state of preservation, but soon after fell to pieces, and was used from that time as a quarry by the Knights of St. John, from which they took stone for the castles they built on the

site of the old Greek Acropolis. Later still much of the marble was taken to repair their fortifications, and it is even said to make lime, showing to what ignominious uses the very greatest of architectural glories may finally come. However, some of the carvings have been redeemed from the fortification walls and unearthed from other places in Budrun, the modern Halicarnassus, to find a final resting place, let it be hoped, in the British Museum. These rescued pieces of marble, of which there are perhaps sufficient to reconstruct a quarter of the whole frieze, though they are not continuous, are pronounced by competent judges to be specimens of the work of the different artists, but there is no means of determining which of them, if any, came from the chisel of Scopas.

The temple of Athene Alea at Tegea in Arcadia, often a sanctuary for fugitives from Sparta, was an architectural creation of Scopas, which it would appear belonged to him exclusively. Of all the temples in the Peloponnesus this is said by Pausanias to have been the largest as well as the most magnificent. That observant traveller, however, must have been carried away somewhat by his enthusiasm over its architectural attractions in ascribing to it such great size, as its dimensions were not more than one hundred and sixty-four by sev-

enty feet, being very much smaller than other Grecian temples.

The temple which Scopas built was not the first to the goddess to occupy the same site, but followed a very much more ancient one, which was destroyed by fire in the year 394 B.C. The tendency to introduce the Corinthian order, which followed after the Peloponnesian wars, and which continued to grow as Greece became more and more intermixed with Roman ideas, is here early displayed. The columnar arrangement of the temple was unusual; for the outside the Ionic style was used, there being six columns at each end and fourteen on the sides; but on the inside the Doric order was employed surmounted by the Corinthian. Both pediments of the building were sculptured by Scopas or from his designs under his immediate supervision. The pediment over the front portico portrayed the chase of the Calydonian boar, and that in the rear the battle of Telephus with Achilles; both being, according to Pausanias, very animated compositions. The statue of the goddess Athene Alea, contained in the cell, was carried off by the Emperor Augustus and placed at the entrance of his new forum in Rome. Some fragments of the pedimental sculptures have been discovered and placed in the British Museum.

To Scopas, in co-operation with Praxiteles, is also attributed the graceful and beautiful Choragic monument of Lysicrates, at one time called "the lantern of Demosthenes," from the mistaken supposition that the great orator used it as a study—a very strange use when it is remembered that the little structure possessed neither doors nor windows. In its day this monument was the pride of the street of Tripods, and it still stands one of the best preserved evidences of the taste and skill of its designers.

In this monument the Corinthian style of decoration is displayed in its perfection of grace, better, perhaps, than in any other structure of that early time which is known to us. Stuart describes it as follows: "The colonnade was constructed in the following manner: six equal panels of white [Pentelic] marble, placed contiguous to each other on a circular plan, formed a continued cylindrical wall, which of course was divided from top to bottom into six equal parts by the junctures of the panels. These columns projected somewhat more than half their diameters from the surface of the cylindrical wall, and the wall entirely closed up the intercolumination. Over this was placed the entablature and the cupola, in neither of which any aperture was made, so that there was no admis-

sion to the inside of this monument, and it was quite dark."

The "flower," or crowning ornament of the monument, was a particularly graceful and beautiful arrangement of acanthus leaves and volutes, and the roof was worked out with great delicacy and originality in the form of a thatch of laurel leaves and Vitruvian scrolls. If there was any apportionment of the work on this monument between Scopas and Praxiteles, it would be interesting to know what it was.

Of the other architectural sculptors associated with Scopas in the adornment of the tomb of Mausolus none is mentioned as having had any other connection with architecture in a similar way, but all were statuaries of distinction and high merit, who executed works in marble or bronze, or both, that gave them prominence in their art. Among other works by Bryaxis were five colossal statues in the island of Rhodes, of which the celebrated "colossus of Rhodes," however, was not one, and also a statue of Apollo, which was destined for the temple of Daphnis near Antiochus. The story is related that Julian the Apostate wished to render to this figure peculiar worship and homage, but was prevented from so doing by a miraculous destruction of the temple and statue by fire. Clement of Alexandria asserts that

Bryaxis was the artist of many works ascribed to Phidias.

As to the share which Timotheus took in the decoration of the mausoleum there is dispute among the Greek authorities, some ascribing his work to Praxiteles; but there does not seem to be any just foundation for the supposition that the sculpturing on the south side of the tomb was by any other hand than that of Timotheus. As one of the great statuaries of the later Attic school he was also among the most prominent, his figure of Artemis being deemed worthy to be placed by the side of the Apollo of Scopas, and the Latona of Praxiteles in the temple which Augustus erected to Apollo on the Palatine. Other statues of conspicuous merit are also ascribed to him by Pausanias and Pliny.

Leochares, the last of the quartette, was also inferior only to Scopas and Praxiteles in his school of art. He was particularly skilful with portrait-statues, the most successful of which were those of Philip of Macedon, Alexander his son, Amyntas, Olympias and Eurydice, all of which were made of ivory and gold, and were placed in the Phillippeion, a circular building in the Altis at Olympia, erected by Philip in celebration of his victory at Chæroneia. But the *chef d'oeuvre* of Leochares was a bronze statue of the rape of Ganymede.

Pliny says of this work that the eagle seemed to be sensible of what he was carrying and to whom he was bearing the treasure, taking care not to hurt the boy through his dress with his talons. The original statue was frequently copied both in marble and on gems, several of which copies are still extant: one in the Museo Pio-Clementino, another in the library of St. Mark in Venice, and still another figures in Stuart's Athens, as an alto-relievo found among the ruins of Thessalonica.

CHAPTER VIII.

THE ALEXANDRIAN ERA AND ROMAN SPOLIATION.

THAT epoch in the art life of the Hellenic people associated with the influences arising out of the career and conquests of Alexander the Great, which we have now reached, was one scarcely inferior in interest to that of the time of Pericles. Overflowing as was the great Macedonian leader's love of art and great as was his ambition to leave behind him lasting monuments that should fittingly stand for the artistic culture of his time, still, for reasons arising partly out of his own career and partly from the ever-changing impulses of human feeling and taste, the art culture of his time must bow to the superiority of that of the time of Pericles, if, in respect to those other features of his leadership and accomplishment, to which history gives a superior rank, his genius is eclipsed by none in the chronicles of civilization.

Alexander's short life, so active in conquest and war, and so much of it passed away from European associa-

tions or even the influences of colonial Greece, necessarily gave him little time for indulgence in the arts at home, while it permitted him to manifest it to some considerable extent in founding cities and rearing temples in foreign lands. To this self-imposed banishment, accompanied, as it was, by large armies brought from Greece and her colonies, and the intermixing of her people with foreigners of new tastes and habits of mind, may be attributed that change of art feeling at home which began to assert itself about this time. On the other hand, however, its effect was beneficial to the conquered countries in introducing a more elevated art standard than had existed within them before.

Personally, Alexander manifested a keen appreciation of the arts; whether founded upon the same sincerity as that which appeared more natural to the character of Pericles is a question; but we find that Praxiteles, Lysippus and Apelles, the great artists of his time, were no less publicly honored or more highly flattered than were Phidias or Polycletus in the days of Pericles. It is related as an evidence of Alexander's enthusiasm for art, that he compensated Apelles for his celebrated portrait of him by ordering that the artist's reward should be *measured out in gold* instead of being *counted,* an order which perhaps quite as much illus-

trated the theatrical impulses of which he could be guilty as the calm expression of a genuine appreciation.

Even had Alexander been spared, and had returned to Greece to continue a long life of usefulness to his people, instead of having been cut off in his prime at Babylon, although he might have done much more for art than he did, still he could not have accomplished for it what had been attained by Pericles. This may be argued from his birth, schooling and the stronger trend of his mind, which led in very different directions. The Macedonian had not certainly the traditions of art culture in his veins, as was the case with the more polished Athenian, and being fonder of the dazzlement of pomp and show, natural to a leader who from infancy had been almost continuously associated with the accoutrements and regalia of armies, it is not likely that whatever he might have accomplished for art more than that which he actually did, would have manifested that purity of ideal, as well as refinement of execution which so marked and dignified the work of Pericles.

As there is always some time which must elapse before the tide, having reached its flood, turns once more to slowly ebb, so was there a time to be expressed in a few years when the plastic arts of Greece, reaching their highest development in the age of Pericles, remained

stationary, before ebbing away to so-called Roman degeneracy, and the mixed influence of various comparatively uncultured nationalities.

The Alexandrian epoch marks the beginning of this turning-point. The decadence took almost as many successive generations to the time when Corinth was sacked by the Romans in 146 B.C., and the Italian soldiers cast their dice upon the pictures of Aristides, as it had taken to advance in the earlier ages of Greece, to the time when the chryselephantine statues of Zeus and Athene, by Phidias, were the recognized perfect standards of godlike majesty and beauty, and the Doryphorus of Polycletus was accepted as the criterion of human grace and proportion.

Of course the standard by which the perfection of architectural dignity and purity can be measured is largely one of individual taste and preferment, as is sometimes evidenced by the conflicting judgments of the best critical authorities, but if we accept the conclusions of centuries of the highest criticism, we must be prepared to concede that the arts to which we refer reached their zenith as stated. However, the expression, Roman degeneracy, is much too severe a one, if taken in other than a comparative sense; for, whatever Grecian architecture may have lost in ideal æstheticism by

reason of Roman interference, it must be granted the Romans that their own evolution in the appreciation of the arts and the accomplishments of architecture resulted in a magnificence which, when compared with our own time, gives them rank second only to the Greeks, from whom they borrowed so much, and whom they did not scruple to rob of nearly all their portable art treasures. "Among the innumerable monuments of architecture constructed by the Romans," says Gibbon, "how many have escaped the notice of history, how few have resisted the ravages of time and barbarism! And yet even the majestic ruins that are still scattered over Italy and the provinces would be sufficient to prove that those countries were once the seat of a polite and powerful empire. Their greatness alone or their beauty might deserve our attention; but they were rendered more interesting by two important circumstances, which connect the agreeable history of the arts with the more useful history of human manners. Many of these works were erected at private expense, and almost all were intended for public benefit."

But the burnishing of the Romans to the high polish which they finally attained in the arts was a slow process, and one which met with many interruptions, according as their rulers were individually affected by a

love of the artistic—a fact which in itself would show that art was not an inherent quality in the Roman nature to the like degree that it was in that of the Greek. To admire the Grecian æsthetic culture was at first considered an evidence of effeminacy, and even Cato exclaimed against the arts not seventeen years after the taking of Syracuse. The Consul Mummius, in 146 B.C., some hundred years later, after the battle which resulted in the capture of Corinth, proved very conclusively that he had very little appreciation of the merit of the treasures he found there, for he not only destroyed a great many, but shipped to Rome many more, for the simple reason that, recognizing how much they were prized by the Corinthians, he wisely saw that they might be useful in Rome. This sacking of Grecian cities was quite popular, and the Roman generals, in their conquests, seemed to strive which should bring away to Rome the greatest number of statues and pictures. The elder Scipio despoiled Spain and Africa, Flamius Sylla and Mummius exported shiploads of the art of Greece, Æmilius despoiled Macedonia, and Scipio the younger, when he destroyed Carthage, transferred to Rome the chief ornaments of that city.

In fact, the Roman generals were remarkable as art pilferers, using the spoils not alone to adorn their public

buildings and institutions, but in some instances their private houses and palaces as well. It is related of Scaurus that he embellished his temporary theatre, erected for a few days' use, with no less than three thousand statues. He also returned to Rome with all the pictures of Sicyon, one of the most eminent schools of painting in Greece, on a pretence that they would compensate for a debt due the Roman people. From this habit of drawing on foreigners it finally came to pass that private citizens took the fever and entered upon the luxury. None was earlier in the field than the Luculli, particularly Lucius Lucullus. Julius Cæsar was personally a great collector, his hobby being gems, while his successor, Augustus, displayed an acute interest in Corinthian vases.

Augustus did much for the architectural adornment of Rome, and his much-quoted remark to the effect that he found Rome a city of bricks and left it one of marble, was, to a great degree, true. In fact, Augustus manifested an æsthetic nature in many respects. Spence says, speaking of the arts, that "the flavor of Augustus, like a gentle dew, made them bud forth and blossom; and the sour reign of Tiberius, like a sudden frost, checked their growth, and killed all their beauties." Men of genius were flattered, courted and enriched under Au-

gustus, as they were some four hundred years' earlier in Athens under Pericles, with the result that Vergil, Horace, Ovid and other poets of the greatest merit sprung forward. Rome became in this age the seat of universal government also, its wealth was enormous, its architectural decorations numerous and splendid, and even its common streets were decked with some of the finest statues in the world. Other great architectural epochs of Rome were those of the time of Trojan and Hadrian. But as evidence of the intermittent character of her art development, very little was realized, as very little could be expected under the reigns of such monsters as Tiberius, Caligula and Nero. To Nero, however, we must accord some little credit in having built a very remarkable architectural composition, although undertaken for no public benefit, but to satisfy his own profligate vanity. His "Golden Palace," built under the direction of the architects Celer and Severus, the most eminent of their time, was ranked as the most "stupendous" structure of its kind in all Italy. The palace was built after the conflagration during which Nero is supposed to have amused himself with a violin. Tacitus tells us that it was ornamented in every part with "pearls, gems and the most precious materials," especially gold, which was used in reckless profusion. In

the centre of a court adorned with a portico of three rows of lofty columns, each row a mile long, stood a colossal statue of that colossal sensualist and wicked monarch, which was one hundred and twenty feet in height. Vespasian tore down the whole of this piece of architectural vanity, restored the land which it had occupied and by which it was surrounded to the people from whom it had been stolen, and erected in its place the great public Coloseum and the magnificent Temple of Peace.

In alluding to the public palaces of amusement, Curio, a Roman Prætor, some few years before the Christian era, is said to have built two wooden theatres close together, which turned on pivots. During the day they were turned away from each other, and different plays were performed in each; then, with all the spectators, they were turned together, forming an amphitheatre in which combats took place. The zeal of the Roman architects to win popular favor by something novel and striking was often very great. In Pompey's theatre water was made to run down the aisles, between the seats, in order to refresh spectators in the heat of summer.

But that the Roman architects were not always as careful in the inspection of the buildings under their supervision as they should have been, and, like some of our modern architects, permitted their works to be used

when in an unsafe condition, is shown from the unfortunate catastrophe which resulted in the unexpected tumbling to pieces of the theatre of Fidenæ near Rome. This accident happened in the reign of Tiberius, and the name of the architect who suffered banishment for his neglect was Attilius. The theatre was built of wood, and out of fifty thousand people who were injured in the collapse twenty thousand are said to have died.

Of all the Roman emperors none is more interesting to the student of Grecian architecture than Hadrian, who was a great admirer of Greece, seeking to introduce the Hellenic institutions and modes of worship in Rome, as well as the art, poetry and learning of Greece. He also undertook to restore Athens, which had suffered greatly during the four or five hundred years which had elapsed between his time and that of Pericles, to something of her former architectural grandeur. Pope's couplet might have been Hadrian's inspiration:

> "You, too, proceed! make falling arts your care,
> Erect new wonders and the old repair."

Indeed, he caused to be inscribed upon the Arch of Honor, which he erected in Athens, after the restoration, two inscriptions which, if not in the best of taste, were in harmony with their author's self-love, of which he

possessed no inconsiderable share. Upon that side of the arch which faced the ancient city he wrote: "This is Athens, the old city of Theseus," and on that which fronted upon the new city of his restoration and adornment was inscribed: "This is the city of Hadrian, and not of Theseus." In other words, the visitor was expected to make his own comparison and perhaps draw the conclusion intimated that Theseus was not, after all, to be compared with the Roman Hadrian.

Hadrian's particular penchant was architecture, and his predominant vices were vanity and jealousy, both of which were manifested in his practice of that art. The magnificent villa which he erected at Tiber, where he spent his declining years, and the ruins of which even now cover a space equal to a large town, would indicate this, as well as the grandiose mausoleum which towered high above the banks of the Tiber at Rome, and which is now depleted of much of its statuary and ornamentation, the Christian church of Saint Angelo. The treatment which he accorded Trajan's great architect, the accomplished Apollodorus, is still another evidence of his vanity.

Hadrian, like Louis I. of Bavaria, found delight in practising personally the profession of architecture, and drew plans of buildings, which the people thought was

unbecoming a prince. Possibly this objection was raised to discourage their ruler rather than the more truthful one that his plans were not up to the high standard of his time. However that may be, he insisted upon their being executed, and it is said was rather pleased if the architects found fault with them. But this was not the case with Apollodorus, whether because of what he had accomplished for his predecessor Trajan, or because of professional jealousy.

Apollodorus was the architect of the Trajan column, composed of only twenty-four stones, although one hundred and twenty-eight Roman feet in height, and the square which surrounded it, considered the most beautiful assemblage of buildings then known. The relief carvings which were wound spirally around the Trajan column like a ribbon, represented the incidents of the expedition against the Darians. The column supported a statue of Trajan, which Pope Sextus V. substituted for one of Saint Peter. A greater absurdity can hardly be conceived than that of placing a peaceful apostle over the warlike representations of the Dacian war.

Apollodorus was also the architect and engineer of the great bridge which stretched across the Danube in lower Hungary, which was formed of twelve piers and twenty-

two arches, said to have been the grandest use of the arch in such works. Each arch was sixty feet wide and one hundred and fifty feet high. The total height of the bridge was three hundred feet and its length a mile and a half. Hadrian destroyed this magnificent work, some say through fear of its use by barbarians, others through jealousy. Perhaps the circumstances attending the death of Apollodorus would point to the second reason as the true one.

Hadrian had made the drawings of the double temple of Venus at Rome, which he submitted to Apollodorus, doubtless for his commendation rather than his criticism. The architect saw at a glance that the sitting figures of the two goddesses, Roma and Venus, which the Emperor had introduced in the little temple, were out of proportion, and so large that if they stood up they would bump their heads against the roof, if they did not take it off entirely. He called the Emperor's attention to this fact with the result that Hadrian became very angry, or pretended to be so, and Apollodorus lost his head for his frankness.

The favorite architect of Hadrian was Detrianus, to whom he entrusted many of his most important undertakings. We find that he restored the Pantheon of Agrippa, the Basilica of Neptune, the Forum of Au-

gustus and the Baths of Agrippina. As original works he designed the Mausoleum of Hadrian, to which we have already alluded; the bridge of Ælius, ornamented with its covering of brass, and supported by its forty-two columns, terminating at the top with as many statues, and the villa at Tivoli. He also erected many structures for his royal patron in Gaul, among which was the Basilica Plotina, the most superb building in that country, and again other buildings in England. The Roman wall from Eden in Cumberland to Tyne in Northumberland, a distance of eighty miles, which was built as a defence against the Caledonians, is attributed to Detrianus. In Greece he embellished the famous temple of Jupiter Olympus, and in Palestine he rebuilt Jerusalem, erected a theatre and various pagan temples out of the stone from the Jewish temples, and completed his sacrilege there by placing a statue of Jupiter on the spot where Christ rose from the dead, and one of Venus on Mount Calvary. A feat, however, which has perpetuated his fame quite as much as any other of his professional acchievements was the removing of the colossal bronze statue of Nero, which stood in the court of the "Golden Palace." This difficult task he is said to have accomplished without changing the erect posture of the huge figure, which, it will be remembered, was one hun-

dred and twenty-eight feet high, by the assistance of twenty-four elephants.

In returning once more to the Greek architects who have been left, while a rather garrulous ramble has been made into the architectural personality of Rome, it may be well not to attempt to do so at once, but to pause for a moment, since we are so far from the chronology of our subject, while the reader makes the acquaintance of two Hellenic artists who, in the time of Quintius Metellus, 147 B.C., found professional employment in Roman territory.

Metellus was one of the first Romans to favor magnificent architecture in his home capitol, and with the booty gathered in his Macedonian campaigns he erected two temples in Rome, said to have been the first temples built of marble in that city, one of which was dedicated to Jupiter Stator, and the other to the white-armed Juno. The interiors were profusely ornamented with the works of the great Grecian masters, Praxiteles, Polycletus and Dionysius figuring largely.

The names of the architects which Metellus brought or imported from Greece for this work were Saurus and Batrachus, who may possibly have been Ionians, inasmuch as they employed the Ionic order. These temples were restored in the Corinthian style, under Augus-

tus, two hundred years later, by Hermodorus of Salamis, who was also the architect of the temple of Mars in the Flaminian Circus.

It is told of Saurus and Batrachus that they were so much pleased with their work that they asked for no reward other than the privilege of having their names inscribed on the temples. But as this honor was denied them, they resorted to expedient to effect the same end. As the name Saurus stood for lizard and Batrachus for frog, they carved lizards and frogs on the temples, and were comparatively satisfied. A rather absurd mistake occurred in respect to these two temples after they were completed. It seems that nothing remained to be done but to add the statues of Jupiter and Juno to each respectively; but by some strange oversight the figure of Jupiter was erected in the house of Juno, and that of Juno before the shrine of Jupiter. However, as the two deities were rather closely connected by marriage, the mistake was conveniently attributed to a whim of the gods and was not remedied.

CHAPTER IX.

THE ALEXANDRIAN ARCHITECTS.

THE boldest, most ingenious and original architect who found favor in the sight of Alexander the Great was undoubtedly Dinocrates, who, like his august patron, was also a Macedonian, and to whom an allusion has already been made in connection with the temple of Diana at Ephesus.

His very introduction into the notice and attention of his distinguished fellow-countryman would tend to prove that Dinocrates was a person of expediency, if nothing else. Let Vitruvius tell the story: "Dinocrates, the architect, relying on the powers of his skill and ingenuity, while Alexander was in the midst of his conquests, set out from Macedonia to the army, desirous of gaining the commendation of his sovereign. That his introduction to the royal presence might be facilitated, he obtained letters from his countrymen and relations to men of the first rank and nobility about the king's person, by whom, being kindly received, he besought them

DINOCRATES BEFORE ALEXANDER THE GREAT.

to take the earliest opportunity of accomplishing his wish. They promised fairly, but were slow in performing, waiting, as they alleged, for a proper occasion. Thinking, however, that they deferred this without just grounds, he took his own course for the object he had in view. He was, I should state, a man of tall stature, pleasing countenance and altogether of dignified appearance. Trusting to the gifts with which nature had endowed him, he put off his ordinary clothing, and, having annointed himself with oil, crowned his head with a wreath of poplar, slung a lion's skin across his left shoulder, and, carrying a large club in his right hand, he sallied forth to the royal tribunal, at a period when the king was dispensing justice.

"The novelty of his appearance excited the attention of the people, and Alexander, soon discovering with astonishment the object of their curiosity, ordered the crowd to make way for him, and demanded to know who he was. 'A Macedonian architect,' replied Dinocrates, 'who suggests schemes and designs worthy your royal renown. I propose to form Mount Athos into the statue of a man holding a spacious city in his left hand and in his right a huge vase, into which shall be collected all the streams of the mountain, which shall thence be poured into the sea.'

"Alexander, delighted at the proposition, made immediate inquiry if the soil of the neighborhood were of a quality capable of yielding sufficient produce for such a state. When, however, he found that all its supplies must be furnished by sea, he thus addressed Dinocrates: 'I admire the grand outline of your scheme, and am well pleased with it; but I am of opinion he would be much to blame who planted a colony on such a spot. For as an infant is nourished by the milk of its mother, depending thereon for its progress to maturity, so a city depends on the fertility of the country surrounding it for its riches, its strength in population, and not less for its defence against an enemy. Though your plan might be carried into execution, yet I think it impolitic. I nevertheless request your attendance upon me, that I may otherwise avail myself of your ingenuity.' From that time Dinocrates was in constant attendance on the king, and followed him into Egypt."

Vitruvius does not explain why it was that Dinocrates singled out the curious costume, or rather lack of costume, which he did to attract the attention of Alexander. It was, in fact, the garb of an athlete. Among the early Greeks a professional athlete was regarded as a person of social distinction, and if a particularly successful one, a personage to whom a statue might be

erected, or upon whom other honors might be conferred. In fact, the uniform of an athlete was, as a rule, a passport to the best society. Dinocrates undoubtedly knew this, and as he was seeking an *entré* into the very highest court circles, he took not an extraordinary method of gaining it.

Mount Athos, which the architect proposed to take as a basis for what was really to be a gigantic statue of Alexander himself, was a pyramidal mountain, at the extreme end of the Acte peninsula, having an altitude of 6780 feet, and crowned with a cap of white marble, which Dinocrates undoubtedly had in mind to utilize for a helmet. The country surrounding the mountain was remarkable for its rural beauty, its woods and ravines, and its people for their longevity. No wonder that Alexander did not wish to disturb this peaceful neighborhood.

Alexander Pope, who has given us an admirable rhymed translation of the songs of Homer, seems to have been greatly impressed with the practicability of this remarkable idea of Dinocrates. Spence, the author of "Polymetis," was once discussing the incident which Vitruvius relates with Pope, remarking that he could not see how the Macedonian architect could ever have carried his proposal into execution, when

Pope at once replied: "For my part, I have long since had an idea how the thing might be done; and if anybody would make me a present of a Welsh mountain and pay the workmen, I would undertake to see it executed. I have quite formed it sometimes in my imagination: the figure must be in a reclining posture, because of the hollowing that would be necessary, and for the city's being in one hand. It should be a rude, unequal hill, and might be helped with groves of trees for the eyebrows, and a wood for the hair. The natural green turf should be left wherever it would be necessary to represent the ground he reclines on. It should be contrived so that the true point of view should be at a considerable distance. When you are near it, it should still have the appearance of a rough mountain, but at a proper distance such a rising should be the leg, and such another an arm. It would be best if there were a river, or rather a lake, at the bottom of it, for the rivulet that came through his other hand to tumble down the hill and discharge itself into the sea."

Mrs. Baillie, in her "Tour on the Continent," has also a comment to make on this proposition of Dinocrates and recalls the fact that a somewhat similar idea was advanced to Napoleon I. "It is somewhat singular," she says, "that Mr. Pope should have thought this mad

project practicable, but it appears that there are still persons who dream of such extravagant and fruitless undertakings. Some modern Dinocrates had suggested to Bonaparte to have cut from the mountain of the Simplon an immense colossal figure, as a sort of Genius of the Alps. This was to have been of such enormous size that all the passengers should have passed between its legs and arms in a zigzag direction."

Another ingenious conception is attributed to Dinocrates in respect to the temple of Diana, which he erected in the city of Alexandria for Ptolemy Philadelphus, in memory of the sister-wife of that potentate, Arsinoë. This relationship, by the way, is said to have been the first ever formed, although it became quite common later in the time of the Ptolemies. Arsinoë was much beloved by her husband, who not only called an entire district in Egypt, Arsinoites, after her, but also gave her name to several cities within his realm. Her features are still preserved to us upon coins struck in her honor, and which represent her crowned with a diadem.

When Dinocrates received the commission to erect a temple to so highly esteemed and devotedly remembered a queen, he apparently set his ingenuity to work to give birth to a novelty that should not only please the king, but astonish his subjects. It finally matured in a prop-

osition to roof the proposed temple with loadstones, in order that they might attract into the air an iron statue of Arsinoë. As the figure of the queen would thus appear suspended in the air without any apparent mundane reason, the inference could be drawn that it was by the divine will. Some authorities say that the entire inner walls of the temple were to have been lined with loadstones, so that the statue might appear suspended in the very centre of the cell, touching nothing. Fortunately, both Dinocrates and Ptolemy died before the project could be executed, otherwise they might have been witnesses to the miserable failure such a chimerical fancy must have proved if attempted, as any modern electrician will attest.

When at Ectabana with Alexander, Dinocrates had still another opportunity to display his resourceless originality, in directing the obsequies of Hephæstion, which were of a most extraordinarily elaborate nature, costing, it is recorded, 12,000 talents, or what would be equivalent to over $1,300,000. Hephæstion was a Macedonian and a close and warm friend of Alexander, accompanying the young king in a military capacity throughout most of his early foreign campaigns. So attached was Alexander to his friend that he not only showed him many marks of his personal esteem, but bestowed upon

him in marriage Drypetis, the sister of his own bride, Statira. At Ectabana Hephæstion was attacked by a fever which had a fatal termination after an illness of seven days. Alexander's grief over the loss of his brother-in-law was violent and extreme, and is said to have found vent in the most extravagant demonstrations. He ordered general mourning throughout the entire empire, and Dinocrates to build a funeral pile and monument to him in Babylon, where the body had been conveyed from Ectabana, at a cost of $1,000,000.

But the richest occasion afforded Dinocrates to display to the fullest his great talents and genius was the laying out of the city which Alexander determined to found in Egypt, and which, bearing the conqueror's name, was destined to become the centre of the commercial activity of the new empire. This great city, which rapidly grew to be one of the most populous of ancient times, and which has maintained, if not its original share of industrial supremacy, at least an important existence throughout the ages that have elapsed from its nativity to the present time, we cannot resist thinking was probably as much the inspiration of Alexander's favorite architect, realizing its professional possibilities, as it was that of Alexander himself. Pliny informs us that Dinocrates died before he could give

the city the full proportions which he had planned, but not certainly until its principal features were executed.

Strabo, the "squint-eyed" geographer, gives a more circumstantial account of the planning of the new city by Dinocrates and his powerful and ambitious patron. It must have been indeed an interesting sight to see the two Macedonians upon the plane which was selected for the site of the city, laying out the streets and avenues, marking the run of the walls that were to surround it, locating the different sites where were to stand the public buildings, parks, palaces and temples, and perhaps disputing and arguing over the questions that arose, as two such dominant intellects might very naturally be supposed to do.

The basis of the plan were two main streets crossing each other at right angles, each one hundred feet wide and lined with colonnades. The other streets were to run parallel to these. Near the centre of the proposed city was to be clustered the public buildings, the Museum and the Serna, which subsequently contained an alabaster coffin in which rested the remains of Alexander. Alabaster, which the Greks obtained from Thebes, was much used for mortuary purposes, as well as for columns and statues.

Plutarch also describes the planning of the city as

follows: "As chalk-dust was lacking, they laid out their lines on the black, loamy soil with flour, first swinging a circle to enclose a wide space, and then drawing lines as chords of the arc to complete with harmonious proportions, something like the oblong form of a soldier's cape. While the king was congratulating himself on this plan, on a sudden a countless number of birds of various sorts flew over from the land and the lake in clouds, and, settling upon the spot, devoured in a short time all the flour, so that Alexander was much disturbed in mind at the omen involved, till the augurs restored his confidence again, telling him the city he was planning was destined to be rich in resources and a feeder of the nations of men," a prophecy which proved its truth in the fulfilment.

Dinocrates was not, however, the only architect employed in laying out so large a city, as might naturally be supposed, although he was, of course, the governing one. How many more there were it would be difficult to say, but there is record at least of two others, both probably employed by the rapacious and unscrupulous Cleomenes, whom Alexander left in Egypt as hyparch under Ptolemy Philadelphus. Olynthius is the name given of one of these architects and Parmenion of the other. The latter was entrusted more particularly with

the superintendency of the works of sculpture, especially in the temple of Serapis, which, by the way, came to be called by his name, Pharmenionis. Bryaxis is also credited with statuary work there.

Upon the island of Pharos, which was joined to the city of Alexander by a wide mole, about three-quarters of a mile long, in which were two bridges over channels communicating between the eastern and western harbors, was built by Ptolemy Soter and his son in the year 282 B.C., a most famous lighthouse and a very glorious ancestor of such guardians of the coast as exist to-day.

This lighthouse was planned by Sostratus, another remarkable character in the architectural roll of honor of those early times. He was a native of Cnidus, a town in Caria in Asia Minor, to the south of Ionia and Lydia, celebrated also as the birthplace of several other men who rose to distinction in the early days of the Greek colonies as mathematicians and astronomers. Cnidus was almost equally remarkable in its possession of two famous works of the statuary's art: one the figure of a lion carved from a single block of Pentelic marble, ten feet long by six feet wide, which was executed to commemorate the great victory of Caria; the other a statue of Venus by Praxiteles, which occupied one of the three

temples to the goddess in that city. It is said that Nicomedes of Bithynia was so fascinated by the rare beauty of this figure that he offered to liquidate the debt of Cnidus, which was by no means a small one, if the citizens would cede the statue to him. They refused, however, to part with it at any price, esteeming it one of the glories of their city. Cnidus contained many beautiful architectural monuments, the ruins of which are still prominent.

Sostratus, the architect, was the son of Dexiphanes, and must not be mistaken for any one of several other artists of the same name who are conspicuously mentioned by the early writers. His first fame was acquired through his connection with the celebrated so-called hanging gardens which he built in his native country. They consisted of a series of porticos or colonnades supporting terraces, surrounding an enclosure, possibly the Agora of the city, and served as a promenade for the inhabitants. Pliny says that Sostratus was the first to erect anything of the kind. This statement may be excused, either because the hanging gardens of Sostratus differed widely from the well-known ones of Babylon, which antedated them by several hundred years, or because Pliny forgot for a moment those of Semiramis.

Strabo, who was probably right in his judgment, thinks that the greatest of Sostratus's works was the towering light-house at Pharos, which he built at a cost of about $900,000, although from its size it would seem that it should have cost more. This colossal tower at once took its place among the seven wonders of the ancient world. It pierced the sky at a height of four hundred and fifty feet, or about one hundred and seventy-five feet above the towers of the Brooklyn Bridge and fifty feet above the torch with which the Goddess of Liberty illuminates the harbor of New York. But its height alone was not more marvellous than its other proportions, which were upon a most extravagant scale. The ground story was hexagonal, the sides alternately convex and concave, and each was one-eighth of a mile in length. The second and third stories were each of the same form, although decreasing in size; the fourth was square, flanked by four round towers, and the fifth or top story was circular. A grand staircase led through each story to the roof of the building, where every night massive fires were lighted, revealing the sea for a hundred miles.

When we consider that this colossal building was made entirely of wrought stone—when we reflect upon the amount of labor involved in its construction, its

ponderous size and dizzy altitude—we cannot but marvel at the extraordinary breadth of conception manifested by its architect and builders and the tenacity with which they must have held to the completion of their huge undertaking. It is not to be wondered at that when Sostratus stood off and contemplated this mighty product of his imagination and genius, after its completion, he should have been actuated with the desire to have his name associated with it for all time, and indelibly engraved somewhere upon its imperishable stone. The story is that Sostratus engraved an inscription upon one of the stones which he afterward covered with cement, and on the cement he inscribed the name of Ptolemy, knowing that in time the cement would decay and leave exposed the hidden writing upon the stone beneath. Strabo says that the concealed inscription read: "SOSTRATUS, THE FRIEND OF KINGS, MADE ME;" but Lucien gives it differently, thus: "SOSTRATUS OF CNIDUS, THE SON OF DEXIPHANES [that he might not be mistaken for any other Sostratus, doubtless], TO THE GODS THE SAVIORS FOR THE SAFETY OF MARINERS."

Pliny does not share the opinion that the inscription was a concealed one, but speaks of the incident as a special instance of the magnanimity of Ptolemy, that he should not only have allowed the name of the architect

to be inscribed upon the building, but that he should have also left its nature and language to the discretion of Sostratus. The words "Gods the Saviors," he believes, referred to the reigning king and queen, with their successors, who were ambitious of the title "Soteros" or Savior.

It would be unfair, perhaps, to the great Grecian architects of the time of Alexander if Andronicus Cyrrhestes were to be classed among them, and Cyrrhestes also, having been a scientific character with a leaning toward astronomy, might with some justice feel aggrieved were he to know that he was to be considered in a category of professional men to which his calling was in no degree related. Still the little building which he designed and erected in Athens is such an interesting one, and has always held so prominent a place among the architectural treasures of the Attic city, that it might be regarded as an intentional oversight to leave him out in a book of this kind. Some authorities place this building as belonging to the time of Alexander the Great, others believe that it was erected at a later period, and one writer gives Andronicus an existence as late as 100 B.C.

This building, which Delambre speaks of as "the most curious existing monument of the practical gnomonics

of antiquity," has sometimes been called the "Tower of Æolus." Let us see what Vitruvius has to say regarding the winds and the building: "Some have chosen to reckon only four winds: the East, blowing from the equinoctial sunrise; the South, from the noonday sun; the West, from the equinoctial sun-setting; and the North, from the Polar Stars. But those who are more exact have reckoned eight winds, particularly Andronicus Cyrrhestes, who on this system erected an octagon marble tower at Athens, and on every side of the octagon he has wrought a figure in relievo, representing the wind which blew against that side; the top of this tower he finished with a conical marble, on which he placed a brazen Triton, holding a wand in his hand; this Triton is so contrived that he turns with the wind, and always stops when he directly faces it, pointing his wand over the figure of the wind at that time blowing."

It is in connection with his allusion to the tower of Cyrrhestes, and his description of how to construct a sun-dial, that Vitruvius gives some valuable hints as to the way the ancients laid out a city so that its streets were protected from the prevailing winds. He says: "Let a marble slab be fixed level in the centre of the space enclosed by the walls, or let the ground be smoothed or levelled, so that the slab may not be necessary. In the

centre of this plane, for the purpose of marking the shadow correctly, a brazen gnomon must be erected. The shadow cast by the gnomon is to be marked about the fifth ante-meridional hour, and the extreme point of the shadow accurately determined. From the central point of the space whereon the gnomon stands, as a centre, with a distance equal to the length of the shadow just observed, describe a circle. After the sun has passed the meridian watch the shadow which the gnomon continues to cast till the moment when its extremity again touches the circle which has been described. From the two points thus obtained in the circumference of the circle describe two arcs intersecting each other, and through their intersection and the centre of the circle first described draw a line to its extremity: this line will indicate the north and south points. One-sixteenth part of the circumference of the whole circle is to be set out to the right and left of the north and south points, and drawing lines from the points thus obtained to the centre of the circle, we have one-eighth part of the circumference for the region of the north, and another eighth part for the region of the south. Divide the remainders of the circumference on each side into three equal parts, and the divisions or regions of the eight winds will be obtained; then let

the directions of the streets and lanes be determined by the tendency of the lines which separate the different regions of the winds. Thus will their force be broken and turned away from the houses and public ways; for if the directions of the streets be parallel to those of the winds, the latter will rush through them with greater violence, since from occupying the whole space of the surrounding country they will be forced up through a narrow pass. Streets or public ways ought therefore to be so set out that when the winds blow hard their violence may be broken against the angles of the different divisions of the city, and thus dissipated."

This tower still stands a fairly well-preserved ruin, and retains many of its original architectural features and decorations. There are two entrances through distyle porticos, the capitals of the columns presenting an original treatment of the Corinthian order. One of these entrances is on the northeast side and the other on the southwest. On the south side is a circular apsidical projection. This was probably originally used for a reservoir to hold the water brought from the spring Clepsydra, on the northwest of the Acropolis, which was employed as the power to run a clepsydra, or water-clock, taking its name, as may be inferred, from the spring. The remains of this clock are still visible. The

exterior of the building was also arranged as a sun-clock, having lines engraved upon the different sides, with gnomons above them, forming a series of sun-dials which indicated the time by shadows. Thus were the people of Athens kept publicly posted as to the time of day—by the sun when it shone, or by the water-clock when it was obscured by clouds.

The character of the architecture, the proportions of the building, as well as its secular uses, were all quite out of harmony with Grecian art and methods, and are essentially Roman. As a similar structure existed at one time in Rome, supposed to have been built by the same scientist, the thought is naturally suggested that Cyrrhestes may have been a Roman.

In closing this reference to the prominent architects of the disintegrating period of Grecian history, it would seem that it only remains to recall Philo, or Philon, as some of the writers have preferred to call him, once more, who flourished about 318 B.C. As there were several artists of his name who became conspicuous at about the same time, our Philo will be distinguished from the others in being a native Athenian.

The reader will probably remember that he has been already mentioned as the architect employed by Demetrius Phalerus, to build a portico of twelve Doric col-

umns to the great temple of Ceres and Proserpine at Eleusis, originally erected by Ictinus; but his most ambitious work was probably the armory, so called, which he designed for Lycurgus in the Piræus, and which it is said was large enough to contain the arms for one thousand ships. He was also engaged in enlarging the port of Piræus, and was the architect of the white marble theatre at Athens, which was finished by Ariobarzanes, and many years afterward rebuilt by Hadrian. Vitruvius says that he also designed a number of Greek temples.

Philo must have been a man of considerable versatility, for it is related that in giving an account of his work at Piræus "he expressed himself with such precision, purity and eloquence that the Athenian people —excellent judges of those matters—pronounced him equally a fluent orator and an admirable architect." He wrote also several works on the architecture of temples and one on the naval basin which he constructed in the Athenian port.

THE END.

INDEX OF ARCHITECTS AND ARCHITECTURAL SCULPTORS.

PAGE

ÆACUS, ... 27
AGAMEDES, ... 42, 63
AGNAPTUS, ... 89
ANTIMACHIDES, ... 80
ANTIPHILUS, ... 89
ANTISTATES, ... 80
APOLLODORUS, ... 19, 158
ATHENIS, ... 87
BATRACHUS, ... 162
BRYAXIS, ... 140, 145, 174
BUPALUS, ... 87
CALLESCHROS, ... 80
CALLICRATES, ... 105, 114
CALLIMACHUS, ... 53, 58
CALOS (*see* PERDIX).
CANNIA, LUIGI, ... 82
CELER, ... 155
CHERSIPHRON, ... 38
CLEŒTAS, ... 133
CORŒBUS, ... 123
COSSUTIUS, ... 81
CTESIPHON, ... 68

PAGE

CYRRHESTES, ANDRONICUS, ... 178
DÆDALUS, ... 30
DAMOPHILUS, ... 86
DAPHNIS, ... 74, 77
DEMETRIUS, ... 74, 77
DETRIANUS, ... 19, 160
DIBUTADES, ... 37
DINOCRATES, ... 19, 76, 164
EUPOLINUS, ... 133
EURYCLES, ... 89
GAUDENTIUS (*Note*), ... 17
GITIADAS, ... 41
GORGASUS, ... 86
HERMOCREON, ... 89
HERMODORUS, ... 163
HERMOGENES, ... 55
HERMON, ... 89
HIPPODAMUS, ... 105
ICARUS, ... 32
ICTINUS, ... 19, 107, 114, 123
LACRATES, ... 89
LEOCHARES, ... 140, 146
LIBON, ... 82, 84
MEGACLES, ... 89
MENALIPPUS, ... 127
METAGENES, ... 68, 124
MNESICLES, ... 19, 112, 128
MUTIANUS, ... 76
MYRILLA, DEMOCOPUS, ... 133
OLYNTHIUS, ... 173
PARRHENION, ... 173

RD - 1 6. 6.

PAGE

Peonius, ... 74, 77
Perdix, ... 31, 36
Phileus, ... 140
Phidias, ... 13, 85, 90, 98, 115, 131
Philo, ... 123, 182
Philocles, ... 121
Polycletus, ... 13, 131
Polycritus, ... 37
Porinus, ... 80
Pothæus, ... 89
Praxiteles, ... 13, 74, 136, 144
Pteras, ... 37
Pyrrhus, ... 89
Pytheus, ... 57
Rhœcus, ... 19, 38
Satyrus, ... 140
Saurus, ... 162
Scopas, ... 58, 74, 136
Severus, ... 155
Silenus, ... 133
Smilis, ... 38
Sostratus, ... 174
Spintharus, ... 65
Stallius, Caius, ... 127
Stallius, Marius, ... 127
Talos (*see* Perdix).
Tarchesius, ... 57
Theodorus, ... 19, 38, 70
Timotheus, ... 140, 146
Trophonius, ... 42, 63
Vitruvius, ... 20, 49, 68, 71, 79, 83, 164, 170

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